

**RESPONSE TO COMMENTS
AND REVISIONS TO THE DRAFT NEGATIVE DECLARATION**

**Back Bay Science Center
September 19, 2003**

CHANGES TO THE PROPOSED PROJECT

One of the design features of the proposed project described in the Draft Negative Declaration was the widening of the access driveway from Back Bay Drive to 20 feet to accommodate emergency vehicles. Since portions of the driveway are bordered on both sides by wetlands, this aspect of the project was determined to have impacts that must be mitigated. The Draft Negative Declaration contained a discussion of this impact and included Mitigation Measure IV-4 that would have reduced this impact.

After the Draft Negative Declaration was circulated for public comment it was determined that the existing access road is a minimum of 20 feet wide, which is sufficient for emergency vehicles, and therefore no wetlands fill is necessary for road widening. Accordingly, the Negative Declaration has been revised to delete references to road widening and Mitigation Measure IV-4, which is no longer appropriate since no impacts to wetlands due to road widening will occur.

COMMENTS AND RESPONSES

Written comments were received from the following agencies:

California Coastal Commission
California Department of Toxic Substances Control
California Department of Transportation
City of Newport Beach
County of Orange, Planning and Development Services Department

In addition, verbal comments were received from the US Fish and Wildlife Service.

The following is a summary of comments received on the Draft Negative Declaration and responses to those comments along with changes made to the Draft Negative Declaration, if appropriate. All deletions and additions to the Draft Negative Declaration are indicated with ~~strikeout~~ and underline, respectively. These changes have been incorporated into the Final Negative Declaration, and adequately address all of the comments received. None of the comments or responses raise new issues that require recirculation of the Negative Declaration, and there are no new impacts that will not be mitigated to a level that is less than significant.

Letter from the Department of Toxic Substances Control dated August 8, 2003

Issue 1: Previous release of hazardous substances

Comment: Identify whether current or historic uses at the project site have resulted in any release of hazardous wastes/substances.

Response: Section VII.d (Hazards and Hazardous Materials) has been revised as follows:

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact Less Than Significant Impact With Mitigation. Neither the project site nor any adjacent property is not included on any the Cortese list of hazardous materials sites. Although no known release of hazardous materials has occurred, the following mitigation measure would ensure that any hazardous substances that may be discovered during demolition or construction are handled in a manner that does not create a significant hazard to the public or the environment.

Mitigation Measures

MM VII-1

Construction specifications shall include a requirement that construction activities shall be halted if any indication of hazardous materials contamination is discovered and a qualified professional shall be retained to conduct an investigation and recommend the appropriate response to protect human health and the environment as well as identify the agency with oversight responsibility. Existing structures to be demolished or remodeled shall be investigated for the presence of lead-based paint and asbestos-containing materials (ACMs). If the presence of lead-based paints or ACMs is suspected, proper precautions shall be taken during demolition activities. Additionally, any contaminants shall be remediated in compliance with California environmental regulations.

If project construction requires soil excavation and removal, appropriate sampling shall be required prior to disposal of the excavated soil. If the soil is contaminated, it shall be properly disposed of. Land Disposal Restrictions (LDRs) may be applicable to these soils. Also, if the project requires soil import to backfill excavated areas, proper sampling shall be required to ensure that the imported soil is free of contamination.

No mitigation measures are necessary.

Issue 2: Contaminated sites within the project area

Comment: The ND needs to identify any known or potentially contaminated site within the project area. For all identified sites the ND needs to evaluate whether conditions at the site pose a threat to human health or the environment.

Response: There are no known contaminated sites within the immediate project area. Mitigation Measure VII-1 would adequately address potential impacts from contamination that could be discovered during project demolition or construction.

Issue 3: Investigation and remediation of contaminated sites within the project area

Comment: The ND should identify the mechanism to initiate any required investigation and/or remediation for any site that may require remediation, and the government agency to provide appropriate regulatory oversight.

Response: See response to Issue 1. Mitigation Measure VII-1 adequately responds to this concern.

Issue 4: Investigation and remediation of contaminated sites within the project area

Comment: Any hazardous wastes/materials encountered during construction should be remediated in accordance with local, state and federal regulations. Prior to initiating any construction activities, an environmental assessment should be conducted to determine if a release of hazardous wastes/substances exists at the site. If so, further studies should be carried out to delineate the nature and extent of the contamination. Also, it is necessary to estimate the potential threat to public health and/or the environment posed by the site. It may be necessary to determine if an expedited response action is required to reduce existing or potential threats to public health or the environment. If no immediate threat exists, the final remedy should be implemented in compliance with state regulations and policies rather than excavation of soil prior to any assessments.

Response: Since the site is not on the list of contaminated sites and there is no evidence of contamination, no further environmental assessment is required at this time. Mitigation Measure VII-1 would adequately address procedures for addressing any contamination that may be discovered during construction.

Issue 5: Investigation and remediation of contaminated sites within the project area

Comment: All environmental investigation and/or remediation should be conducted under a workplan which is approved by a regulatory agency that has jurisdiction to oversee hazardous waste cleanups. Complete characterization of the soil is needed prior to any excavation or removal action.

Response: Since the site is not on a list of contaminated sites and there is no evidence of contamination, no further environmental assessment is required at this time. Mitigation Measure VII-1 would adequately address procedures for addressing any contamination that may be discovered during construction.

Issue 6: Investigation and remediation of lead-based paints and ACMs

Comment: Investigate the presence of lead-based paints and ACMs in the currently existing building structures that are to be demolished/renovated. If the presence of lead-based paints or ACMs is suspected, proper precautions should be taken during

demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations.

Response: See response to Issue 1. Mitigation Measure VII-1 adequately responds to this concern.

Issue 7: "Border zone" properties

Comment: If any of the adjacent properties of the project site are contaminated with hazardous chemicals, and if the proposed project is within 2,000 feet from a contaminated site, then the proposed development may fall under the "Border Zone of a Contaminated Property." Appropriate precautions should be taken prior to construction if the proposed project is on a "Border Zone Property."

Response: The project site is not adjacent to a known contaminated property. See response to Issue 1. Mitigation Measure VII-1 adequately responds to this concern.

Issue 8: Import and disposal of contaminated soil

Comment: The project construction may require soil excavation and soil filling in certain areas. Appropriate sampling is required prior to disposal of the excavated soil. If the soil is contaminated, properly dispose of it rather than placing it in another location. Land Disposal Restrictions (LDRs) may be applicable to these soils. Also, if the project is planning to import soil to backfill the areas excavated, proper sampling should be conducted to make sure that the imported soil is free of contamination.

Response: See response to Issue 1. Mitigation Measure VII-1 adequately responds to this concern.

Issue 9: Assessment, investigation and cleanup of school facilities

Comment: The ND indicates that the new facility is designed to operate an educational and interpretive program for students in grades 7-12. If the proposed school property acquisition and/or construction utilize state funding, it should be in compliance with the Assembly Bill 387 and Senate Bill 162 which require a comprehensive environmental review process and the DTSC's approval is required. DTSC's role in the assessment, investigation, and cleanup of proposed school sites is to ensure that the selected properties are free of contamination, and if the property is contaminated that it is cleaned up to a level that is protective of the students and faculty who will occupy the new school. A study of the site is to be conducted to provide basic information for determining if there has been a release or if there is a threatened release of a hazardous material including agricultural chemicals or if there may be a naturally occurring hazardous material present at the site that may pose a risk to human health or the environment. Though the proposed project may not be using state funds, the purpose of the bill is to protect the children who will be attending this school. Therefore, proper environmental studies should be conducted to ensure that a threat to children's health and the environment does not exist at the site.

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Back Bay Science Center
Page 5

Response: The proposed project is not a school facility. See response to Issue 1. Mitigation Measure VII-1 adequately responds to this concern.

Issue 10: Contamination discovered during construction

Comment: If during construction the project, soil and/or groundwater contamination are suspected, construction in the area should cease and appropriate health and safety procedures should be implemented. If it is determined that contaminated soil and/or groundwater exist, the ND should identify how any required investigation and/or remediation will be conducted, and the government agency to provide appropriate regulatory oversight.

Response: See response to Issue 1. Mitigation Measure VII-1 adequately responds to this concern.

Letter from the California Department of Transportation dated August 20, 2003

Comment 1: CalTrans District 12 is a reviewing agency and has no comments at this time. In the event of any activity in CalTrans right-of-way an encroachment permit is required. Coordination with CalTrans Local Assistance Branch is required due to OCTA preliminary approved Federal TEA funds.

Response: No activity in CalTrans right-of-way will be proposed, and TEA funding is not involved, therefore no further coordination with CalTrans is necessary. CalTrans' response is appreciated.

Letter from the City of Newport Beach dated August 20, 2003

Comment 1: The letter states that the Negative Declaration addresses the City's concerns in a thorough and satisfactory manner and that the City supports the project.

Response: No response is necessary.

Letter from the Orange County Planning and Development Services Department dated August 21, 2003

Comment 1: The letter states that the County has no comments at this time.

Response: No response is necessary.

Letter from the California Coastal Commission dated August 22, 2003

Issue 1: Coastal Act Compliance

Comment: A Coastal Development Permit is required and the Mitigated Negative Declaration should address whether the proposed project is consistent with the policies contained in Chapter 3 of the Coastal Act, specifically Section 30233 which limits fill in wetlands.

Response: After the Draft Negative Declaration was circulated for public comment it was determined that the existing access road width is sufficient for emergency vehicles and therefore no wetlands fill is necessary for road widening. Section IX.b. (Land Use and Planning) has been revised as follows (changes indicated with ~~strikeout~~ and underline):

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant Impact. The proposed project is consistent with the existing General Plan land use designation, zoning, and Local Coastal Program Land Use Plan. The General Plan and LCP/Land Use Plan designate the Shellmaker Island site for Recreational and Environmental Open Space. The proposed facilities are consistent with this designation.

Section 30600(a) of the Coastal Act requires that, in addition to obtaining any other permit required by law from any local government or from any state, regional, or local agency, any person, as defined in Section 21066, wishing to perform or undertake any development in the coastal zone shall obtain a coastal development permit (CDP). The proposed project is located within the City of Newport Beach, which presently has a certified Land Use Plan, but does not have a certified Local Coastal Program (LCP). In the absence of a certified LCP, the Coastal Commission will process the coastal development permit application for the project. The Commission's standard of review for the CDP is compliance with Chapter 3 policies of the Coastal Act.

The Coastal Act limits the dredging or filling of wetlands to the specific uses listed in Section 30233 of the Coastal Act. In addition, development adjacent to wetland habitat areas shall not adversely impact the wetlands. Adequate buffers must be provided between development areas and the wetlands to ensure protection of those sensitive areas. A buffer zone 100 feet wide is typically considered adequate for this purpose, but narrower buffers may be adequate if properly designed and managed.

The proposed project would not involve the filling or dredging of any wetlands and is consistent with Chapter 3 of the Coastal Act. Degraded wetlands will be restored as part of the project. A buffer zone between the facilities and sensitive habitat areas is provided in the design of the project, as described on Page 56. The Department of Fish and Game has reviewed the plan and has determined that the proposed buffer zones are adequate to protect these resources.

The project is required to obtain a Coastal Development Permit, which will ensure compliance with the Coastal Act. No mitigation measures are necessary.

Issue 2: Coastal Act policies

Comment: The Coastal Commission will also apply the policies contained in Chapter 3 of the Coastal Act, to address the project's impacts to public access and recreation, scenic resources, vehicular circulation, marine resources, water quality, and geologic safety.

Response: These issues are addressed in the corresponding sections of the Initial Study, and will also be considered during the review process for the Coastal Development Permit.

Issue 3: Alternatives to the proposed project

Comment: The proposed Mitigated Negative Declaration should analyze additional alternatives to the proposed project, including alternatives that avoid the fill of wetlands for uses other than those specified in Section 30233 of the Coastal Act. Alternative mitigation plans should also be proposed as part of the environmental review.

Response: After the Draft Negative Declaration was circulated for public comment it was determined that the existing access road width is sufficient for emergency vehicles and therefore no wetlands fill is necessary for road widening. As a result, no analysis of alternatives or mitigation plans is necessary.

Verbal Comments from the US Fish and Wildlife Service

Comment 1. We suggest more attention be given to avoiding any contribution to light pollution in the salt marsh via lamp shielding, directing away from the marsh, and/or reduced height of light standards.

Response: Section I.d (Aesthetics) has been revised as follows to require additional assurances that light and glare will not impact sensitive habitat areas.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

Less Than Significant Impact With Mitigation. Since the site is currently developed, the proposed project would not create a new source of light, although exterior lighting of the new facilities could cause glare and adversely affect nighttime views from nearby properties if not properly controlled. In order to minimize the potential for light spillage and glare, the following mitigation measure will be imposed on the project.

Mitigation Measure

MM I-1

Exterior on-site lighting shall be shielded and confined within site boundaries. No direct rays or glare are permitted to shine onto public streets or adjacent sites or create a public nuisance. "Walpak" type fixtures shall not be permitted. ~~Parking area lighting shall have zero cut-off fixtures and light standards shall not exceed 20 feet in height.~~ All security lighting shall be selected, installed and shielded to avoid glare in adjacent marsh areas.

This mitigation measure would reduce potential impacts to a level that is less than significant.

Comment 2. Light standards should not encourage avian predators to perch overlooking the saltmarsh, which is a known clapper rail territory. Nixalite ought to do it.

Response: Project Design Feature IV-4 has been added as follows to avoid creating perch overlooks for predators.

PDF-IV-4

Light standards shall be designed so as not to encourage avian predators to perch overlooking the saltmarsh, which is a known clapper rail territory. (e.g., Nixalite)

Comment 3. We suggest that fugitive dust should be guarded against entering the saltmarsh.

Response: Fugitive dust will be controlled through the requirements of Standard Condition III-1 (p. 39), which reads as follows:

SC III-1

In order to reduce construction related fugitive dust, SCAQMD Rule 403 will be implemented during construction. Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source, Implementation of these dust suppression techniques can reduce dust generation and PM10 by 50 to 75 percent. Implementation of the following measures will reduce short-term fugitive dust impacts on nearby sensitive receptors.

- *Apply non-toxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).*
- *Water active sites at least two times daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)*
- *All trucks hauling dirt, sand, soil, or other loose materials are to be covered, or should maintain at least two feet of freeboard in accordance*

with the requirements of California Vehicle Code Section 23114 (freeboard refers to the vertical distance between the top of the load and the top of the trailer walls).

- *Pave construction access roads at least 100 feet onto the site from the main road.*
- *Traffic speeds on all unpaved roads shall be limited to 15 mph or less.*
- *Revegetate disturbed areas as quickly as possible.*
- *All excavating and grading operations shall be suspended when wind speeds (as instantaneous gusts) exceed 25 mph.*
- *All streets shall be swept once a day if visible soil materials are carried to adjacent streets. Water sweepers with reclaimed water are recommended.*
- *Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip.*

No additional changes are necessary.

Comment 4: Gnatcatchers are sometimes present on the nearby slope habitat and may be within a zone of construction influence. We suggest CAGN monitoring be included in the construction monitoring.

Response: Mitigation Measure IV-3, which was incorporated into the Draft Negative Declaration, has been revised to read as follows:

MM IV-3

A qualified biologist shall be onsite during grading and trenching activities. The biologist will ensure that sensitive biological resources, including rare, threatened, and endangered species, are not adversely affected by the project construction activities. The project biologist will determine whether construction should be halted during the breeding season to avoid impacts on sensitive species such as the light-footed clapper rail or California gnatcatcher. Vehicular and construction personnel foot traffic shall not impinge on coastal sage scrub, salt marsh, mudflat, or bay environments, either on the project site or on adjacent sensitive habitat areas such as the slope area along the eastern side of Back Bay Drive. "No Entrance" signage and barriers will be erected to prohibit intrusions into sensitive habitats.

These additional project requirements will mitigate this potential impact to a level that is less than significant.

Comment 5: Light-footed clapper rails forage in the salt marsh contiguous with the access road and breeding territories are very nearby. Timing restriction on equipment and people working along the access road would be a good avoidance measure.

Response: Mitigation Measure IV-3 has been revised to give the project biologist the authority to halt construction during the breeding season for sensitive species such as the Light-footed clapper rail. These additional project requirements will mitigate this potential impact to a level that is less than significant.

Comment 6: Construction noise could pose a problem for the clapper rail and gnatcatcher. Keeping construction chronic noise in the saltmarsh below the 65 dB level seems advisable.

Response: It is difficult to quantify or control construction noise. Some construction activities are comparatively noisy but short in duration. The following additional mitigation measure has been added to determine whether clapper rails or gnatcatchers are present and ensure that construction noise will be reduced to the greatest extent practical:

MM IV-4

Prior to commencement of construction, a qualified biologist shall conduct a field survey to determine whether clapper rails or California gnatcatchers are nearby. If these sensitive species are present the Department of Fish and Game (DFG) shall determine whether construction should be scheduled to avoid critical nesting periods. DFG shall also review the proposed construction plans with the Project Manager to ensure that construction methods and equipment are chosen so as to reduce noise to the greatest extent practical.

These additional project requirements will mitigate this potential impact to a level that is less than significant.

Comment 7: We found no statements about wetland impacts from road improvement. Of course, we hope this is because none are intended. As you are aware, something as simple as blading a road surface may shove material out of the road onto the bank or into saltmarsh. The annual presence of salt marsh bird's beak adjacent to the access road also raises the concern. So, measures to avoid the inadvertent or mistaken impact to salt marsh or the endangered plant are simple to identify and implement through flagging, cloth fencing, and observation/enforcement.

Response: No improvements to roadways are proposed as part of the project. As noted previously, subsequent to the publication of the Draft Negative Declaration it was determined that the width of the access road is adequate for emergency vehicle access. However, incidental impacts to sensitive habitat areas could inadvertently occur during construction if proper precautions are not taken. The Negative Declaration has been revised to include the following mitigation measure and would adequately address this concern.

MM IV-5

Construction contract specifications shall require that sensitive salt marsh areas are protected from inadvertent damage during construction. Prior to commencement of construction, a qualified biologist shall flag salt marsh areas to be protected and meet with the Project Manager to ensure that the construction personnel are familiar with these restrictions.

<p style="text-align: center;">Mitigation Monitoring Program Back Bay Science Center September 17, 2003</p>					
Mitigation Measure	Implementing Action, Condition or Mechanism	Method of Verification	Timing of Verification	Responsible Persons	
<p>MM I-1</p> <p>Exterior on-site lighting shall be shielded and confined within site boundaries. No direct rays or glare are permitted to shine onto public streets or adjacent sites or create a public nuisance. "Waipak" type fixtures shall not be permitted. All security lighting shall be selected, installed and shielded to avoid glare in adjacent marsh areas.</p>	<p>Plans & Specifications</p>	<p>Plan check; field inspection</p>	<p>Prior to approval of plans & specifications; during construction</p>	<p>Plan checker; field inspector</p>	
<p>MM IV-1</p> <p>Trail improvements shall be conducted using the least environmentally damaging methods. A qualified botanist shall be present to ensure that any trail construction activity does not result in the degradation of wetland habitat or vegetation.</p>	<p>Plans & Specifications</p>	<p>Plan check; field inspection</p>	<p>Prior to approval of plans & specifications; during construction</p>	<p>DFG botanist</p>	
<p>MM IV-2</p> <p>A pre-construction focused survey for Beldings savannah sparrows shall be conducted during the breeding season to determine if breeding activity is occurring. If it is determined that any Beldings savannah sparrows are exhibiting breeding behavior within 100 feet of the project site then the biological monitor, in consultation with California Department of Fish and Game and the U.S Fish and Wildlife Service, shall determine if construction activity should be halted until the</p>	<p>Plans & Specifications</p>	<p>Field inspection</p>	<p>Prior to approval of plans & specifications; prior to construction</p>	<p>DFG biological monitor</p>	

Mitigation Monitoring Program Back Bay Science Center September 17, 2003				
Mitigation Measure	Implementing Action, Condition or Mechanism	Method of Verification	Timing of Verification	Responsible Persons
breeding season (March to September) has been completed.				
MM IV-3 A qualified biologist shall be onsite during grading and trenching activities. The biologist will ensure that sensitive biological resources, including rare, threatened, and endangered species, are not adversely affected by the project construction activities. The project biologist will determine whether construction should be halted during the breeding season to avoid impacts on sensitive species such as the light-footed clapper rail or California gnatcatcher. Vehicular and construction personnel foot traffic shall not impinge on coastal sage scrub, salt marsh, mudflat, or bay environments, either on the project site or on adjacent sensitive habitat areas such as the slope area along the eastern side of Back Bay Drive. "No Entrance" signage and barriers will be erected to prohibit intrusions into sensitive habitats.	Plans & Specifications	Field inspection	Prior to approval of plans & specifications; prior to and during construction	DFG biological monitor
MM IV-4 Prior to commencement of construction, a qualified biologist shall conduct a field survey to determine whether clapper rails or California gnatcatchers are nearby. If these sensitive species are present the Department of Fish and Game (DFG) shall determine whether construction should be scheduled to avoid critical nesting	Plans & Specifications	Field inspection	Prior to approval of plans & specifications; prior to and during construction	DFG biological monitor

Mitigation Monitoring Program Back Bay Science Center September 17, 2003				
Mitigation Measure	Implementing Action, Condition or Mechanism	Method of Verification	Timing of Verification	Responsible Persons
<p>periods. DFG shall also review the proposed construction plans with the Project Manager to ensure that construction methods and equipment are chosen so as to reduce noise to the greatest extent practical.</p>				
<p>MM IV-5 Construction contract specifications shall require that sensitive salt marsh areas are protected from inadvertent damage during construction. Prior to commencement of construction, a qualified biologist shall flag salt marsh areas to be protected and meet with the Project Manager to ensure that the construction personnel are familiar with these restrictions.</p>	<p>Plans & Specifications</p>	<p>Field inspection</p>	<p>Prior to approval of plans & specifications; prior to and during construction</p>	<p>DFG biological monitor</p>
<p>MM VI-1 A. Prior to issuance of a grading permit, the applicant or successor in interest shall demonstrate to the Department of Fish and Game or its designee that all facilities will be designed and constructed as specified in the Uniform Building Code. B. Development of the site shall be subject to a grading permit to be approved by the Department of Fish and Game or its designee. The application for grading permit shall be accompanied by a grading plan and specifications and supporting data consisting of solid engineering and</p>	<p>Plans & Specifications</p>	<p>Plan check</p>	<p>Prior to approval of plans & specifications; prior to issuance of a grading permit</p>	<p>DFG Project Manager; grading plan checker</p>

Mitigation Monitoring Program Back Bay Science Center September 17, 2003				
Mitigation Measure	Implementing Action, Condition or Mechanism	Method of Verification	Timing of Verification	Responsible Persons
<p>engineering geology reports or other reports required by the building official.</p> <p>C. Prior to the issuance of any building permits a specific soils and foundation study shall be prepared and approved by the Department of Fish and Game or its designee.</p>				
<p>MM VI-2</p> <p>Prior to issuance of a grading permit an Erosion Control Plan shall be prepared and submitted to the Department of Fish and Game or its designee for approval. The plan shall identify methods to prevent and control potential grading-associated erosion from discharging into Newport Bay. Proposed actions should include erosion control methods to reduce the potential for windblown topsoil or waterborne sediments to reach the Bay including sand bags, wind screens, watering down of dry soils, and implementing other accepted Best Management Practices (BMPs) during the grading process. Implementation and compliance shall be monitored by the project construction monitor.</p>	<p>Plans & Specifications</p>	<p>Plan check; field inspection</p>	<p>Prior to approval of plans & specifications; prior to issuance of a grading permit; during grading and construction</p>	<p>DFG Project Manager; grading plan checker; field inspector</p>

**Mitigation Monitoring Program
Back Bay Science Center
September 17, 2003**

Mitigation Measure	Implementing Action, Condition or Mechanism	Method of Verification	Timing of Verification	Responsible Persons
<p>MM VII-1</p> <p>Construction specifications shall include a requirement that construction activities shall be halted if any indication of hazardous materials contamination is discovered and a qualified professional shall be retained to conduct an investigation and recommend the appropriate response to protect human health and the environment as well as identify the agency with oversight responsibility. Existing structures to be demolished or remodeled shall be investigated for the presence of lead-based paint and asbestos-containing materials (ACMs). If the presence of lead-based paints or ACMs is suspected, proper precautions shall be taken during demolition activities. Additionally, any contaminants shall be remediated in compliance with California environmental regulations.</p> <p>If project construction requires soil excavation and removal, appropriate sampling shall be required prior to disposal of the excavated soil. If the soil is contaminated, it shall be properly disposed of. Land Disposal Restrictions (LDRs) may be applicable to these soils. Also, if the project requires soil import to backfill excavated areas, proper sampling shall be required to ensure that the imported soil is free of contamination.</p>	<p>Plans & Specifications</p>	<p>Plan check; field inspection</p>	<p>Prior to approval of plans & specifications; during grading and construction</p>	<p>DFG Project Manager; grading plan checker; field inspector</p>

Mitigation Monitoring Program Back Bay Science Center September 17, 2003				
Mitigation Measure	Implementing Action, Condition or Mechanism	Method of Verification	Timing of Verification	Responsible Persons
MM VII-2 Prior to award of a construction contract or issuance of a grading permit, a traffic control plan meeting the approval of the Department of Fish and Game or its designee shall be prepared. The plan shall specify what measures shall be taken to minimize travel disruptions and safety hazards, including safety of pedestrians and bicyclists, minimize inconveniences to residents and businesses, minimize the loss of parking, and ensure adequate emergency access at all times. The plan shall include haul routes and restrictions for soil export, if required. The traffic control plan shall be incorporated into the contract specifications and shall be enforced by the construction inspector.	Plans & Specifications	Plan check; field inspection	Prior to award of construction contract or issuance of a grading permit; during construction	DFG Project Manager; grading plan checker; field inspector
MM VIII-1 Prior to issuance of any grading permit, an erosion, siltation and dust control plan shall be submitted and be subject to the approval of the Department of Fish and Game or its designee.	Plans & Specifications	Plan check	Prior to issuance of a grading permit	DFG Project Manager; grading plan checker

Mitigation Monitoring Program Back Bay Science Center September 17, 2003				
Mitigation Measure	Implementing Action, Condition or Mechanism	Method of Verification	Timing of Verification	Responsible Persons
MM VIII-2 Prior to issuance of a grading or building permit, a Storm Water Management Plan shall be prepared in coordination with the Erosion Control Plan to identify methods to reduce construction period storm water runoff to Upper Newport Bay. The project construction monitor will ensure that the BMPs contained within the SWMP are fully implemented and complied with. Accumulated debris shall be removed following major storm events.	Plans & Specifications	Plan check; field inspection	Prior to issuance of a grading or building permit	DFG Project Manager; plan checker; construction monitor
MM VIII-3 Construction debris and trash shall not be discharged to Newport Bay. Plans and specifications shall include requirements for all construction debris to be removed from the site and disposed of at an approved landfill.	Plans & Specifications	Plan check; field inspection	Prior to approval of plans & specifications; during construction	DFG Project Manager; plan checker; construction monitor



**Lead Agency: Department of Fish and Game
South Coast Region
Land Management and Monitoring Program
4949 Viewridge Avenue
San Diego, CA 92123**



**FINAL
INITIAL STUDY AND
MITIGATED NEGATIVE DECLARATION

BACK BAY SCIENCE CENTER**

Lead Agency: Department of Fish and Game
South Coast Region
Land Management and Monitoring Program
4949 Viewridge Avenue
San Diego, CA 92123

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September 17, 2003

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ENVIRONMENTAL CHECKLIST

A. PROJECT DESCRIPTION

1. **PROJECT TITLE:**

Back Bay Science Center

2. **LEAD AGENCY NAME AND ADDRESS:**

California Department of Fish and Game
South Coast Region
4949 Viewridge Avenue
San Diego, CA 92123

3. **CONTACT PERSON AND PHONE NUMBER:**

Theresa Stewart, Supervisor
Land Management and Monitoring Program
858-467-4209

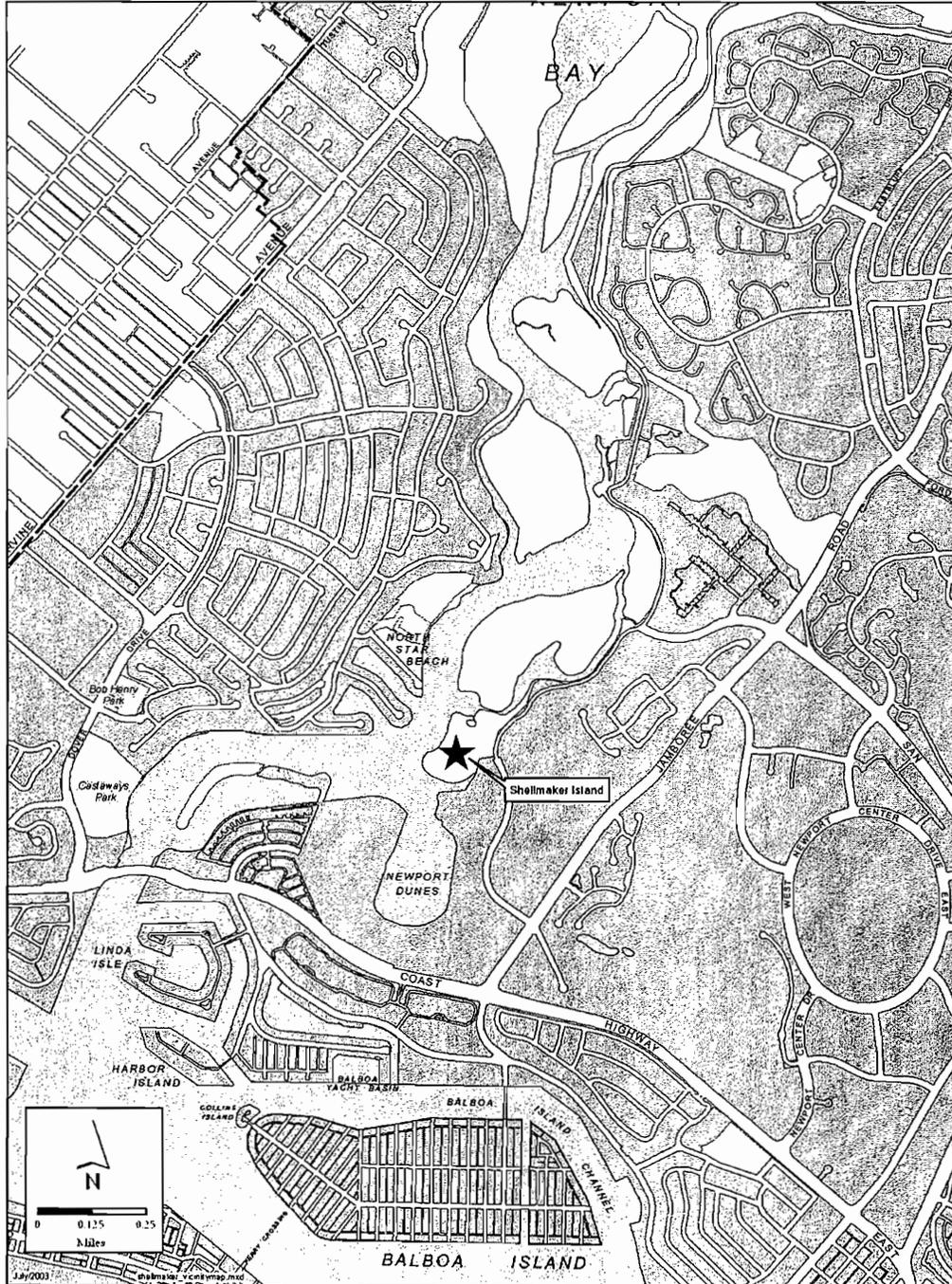
4. **PROJECT LOCATION:**

Shellmaker Island is located at Upper Newport Bay Ecological Reserve, in Upper Newport Bay, Orange County, California . The majority of the Upper Bay is an estuarine at Upper Newport Bay Ecological Reserve, salt marsh system with considerable freshwater input from its 145-square-mile watershed. The Upper Bay extends in a north-to-northeasterly direction from the Pacific Coast Highway Bridge for a distance of about 3.5 miles and is bounded by the bluffs of the Newport Mesa on the west and the San Joaquin Terrace on the east. The Upper Bay veers east at the remnant salt pond dike and extends to the Jamboree Road bridge where the San Diego Creek flows into Upper Newport Bay. At its southern end, Upper Newport Bay connects with Newport Harbor (Lower Newport Bay) at the Pacific Coast Highway Bridge. Lower Newport Bay extends 1.5 miles in an east-west orientation. Its ocean entrance jetty is located at the eastern (downcoast) end of the bay.

Shellmaker Island is located in the southern one-third of Upper Newport Bay immediately north of the Dunes Marina Boat Launch facilities at the southern boundary of the Upper Newport Bay Ecological Reserve. It has been under the stewardship of the California Department of Fish and Game (CDF&G) since it was acquired from the County of Orange and the Irvine Company in 1974.

The Back Bay Science Center project area is located on Lower Shellmaker Island. The southern boundary is the Dunes Marina Launch Ramp Channel, the northern boundary is the tidal channel cut separating Lower and Upper Shellmaker Island, the eastern boundary is Back Bay Drive, and the western boundary is the -5 ft depth contour of the main channel of Upper Newport Bay. (See Exhibit A-1.1 Vicinity Map)

EXHIBIT A-I.1
VICINITY MAP



5. PROJECT SPONSOR:

The project is jointly sponsored by the following agencies:

California Department of Fish & Game
South Coast Region
4949 Viewridge Avenue
San Diego, CA 92123

City of Newport Beach
Harbor Resources Division
829 Harbor Island Drive
Newport Beach, CA 92660

County of Orange
Health Care Agency
515 N. Sycamore
Santa Ana, CA 92701

An Interagency Agreement was executed on February 1, 2003 between the Department of Fish and Game and the City of Newport Beach for planning and design services for a Back Bay Science Center. Under the agreement the City provides project management, architectural design, environmental documentation and permitting on behalf of Department of Fish & Game as lead agency.

6. GENERAL PLAN DESIGNATION:

Recreational & Environmental Open Space

7. ZONING:

Recreational & Environmental Open Space

8. PROJECT DESCRIPTION:

The California Department of Fish and Game, the County of Orange, and the City of Newport Beach are jointly planning to construct a Back Bay Science Center and Water Quality Testing Laboratory on Shellmaker Island. The new facility is designed to be multifunctional, and would provide for the following:

- Facilities necessary to operate an educational and interpretive programs for students in grades 7-12;
- An estuarine research center for students and teachers of local high schools, colleges and universities;
- A state-of-the-art water quality testing facility operated by the County of Orange;
- Permanent office space for the California Department of Fish and Game Upper Newport Bay staff.

The projects consists of removing or demolishing existing structures with a total of 8,594 square feet, including 4 buildings, 2 trailers and 2 storage containers. These will be replaced by a permanent enclosed structure with 4 wings totaling 13,000 square feet. The structures will be set back a minimum of 50' from the wetlands and buffered with sand dunes. The existing teaching lab trailer will be temporarily relocated in order to

allow space for the new facility. The structures will be designed as "state of the art" sustainable, energy efficient systems. The low profile building will have a roof height of 15 to 16 feet with a small entry portion 28 feet in height.

Proposed site improvements include the following:

- The existing outdoor educational areas will be expanded to include hands-on interpretive elements, testing areas, tanks, aquarium and tidepool exhibits.
- The existing trail system will be enhanced and signed with 15- to 20-foot sand dune buffers between the trail and the wetlands. There will be several spur trails leading to small observation/teaching areas;
- Construction of a wetlands rehabilitation demonstration project of approximately 10,000 square feet;
- Formalizing the existing parking area for 66 cars and one bus with pervious paving;
- On-site storm and gray water runoff system from the building and parking area to a fresh water pond with filtering plants;
- Refurbishing the existing native planting area and greenhouse area, the amphitheater & dock bulkhead;
- New underground utilities, fire protection and security system;
- Relocation of the entry gate.

The proposed Site Plan is shown in Exhibit A-2.1 and the proposed Elevation as Exhibit A-2.2.

It is anticipated that project construction will occur during the fall and winter of 2004-05.

EXHIBIT A-2.1
SITE PLAN

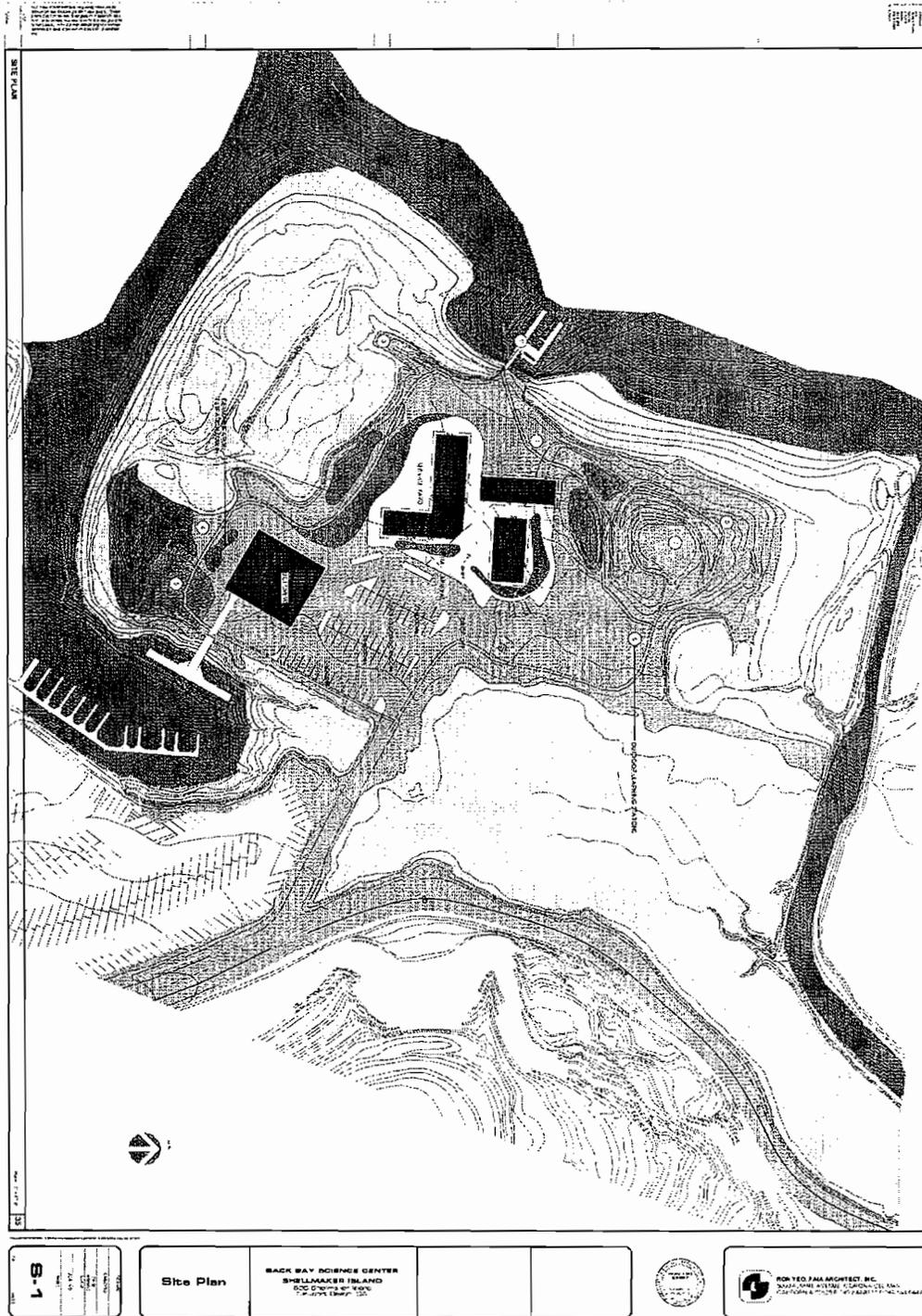
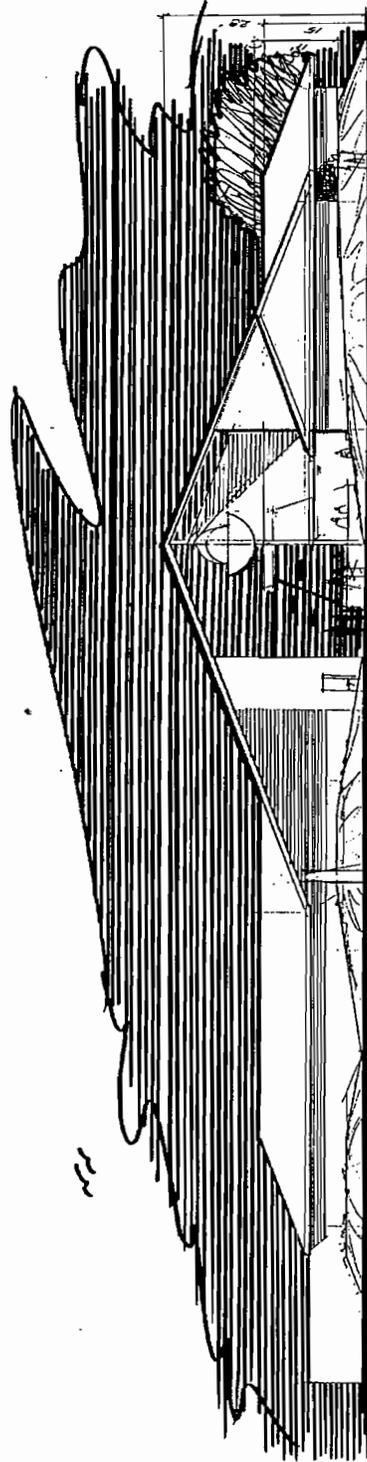


EXHIBIT A-2.2
ELEVATION



EAST ELEVATION @ ENTRY



BACK BAY SCIENCE CENTER
SHELLMAKER ISLAND, NEWPORT BEACH, CA

RON YEO, FAIA, ARCHITECT, INC. 500 JASMINE AVENUE CORONA DEL MAR, CALIFORNIA 92625 PHONE: (949) 644-6111 FAX: 644-0469

9. SURROUNDING LAND USES AND SETTING:

Historically, Shellmaker Island was used as a dredge material disposal site and dredge operations staging area for about 50 years through the late 1980s. Consequently, about 24 acres of salt marsh and mudflat habitat along the main channel (3,000 feet long, averaging 350 feet wide) were eliminated and transformed into higher elevation open sandy areas. Parts of these supra-tidal areas have been colonized by dune and upland vegetation. Other areas remain barren, or serve as facility areas for California Department of Fish and Game, the County of Orange, and the University of California at Irvine Rowing Facilities.

Currently, Shellmaker Island can be artificially divided into three regions. The eastern 2/3 of the island along Back Bay Drive consists of high quality salt marsh, mudflats, and tidal channels. This section of island remains relatively undisturbed and supports a wide range of wildlife, including endangered plants and breeding populations of endangered birds.

The western one-third of the island is the site of previous dredging and disturbances. Within this region, the southern one-fourth of Shellmaker Island (commonly referred to as Lower Shellmaker Island) is joined to the mainland by Shellmaker Road, which provides access to the University of California Rowing Facility, the California Department of Fish and Game headquarters, and educational facilities. Temporary buildings are situated atop dredge materials that are elevated as high as +17 feet Mean Lower Low Water (MLLW). Portions of the extreme southern end of Lower Shellmaker Island have been restored to salt marsh and mudflats through various small mitigation and restoration efforts by the Department of Fish and Game and the County of Orange in the mid 1980s and early 1990s (Coastal Resources Management 1995).

North Shellmaker (Upper Shellmaker) Island is located immediately north of a man-made tidal channel that was dredged as part of a CDF&G restoration project in the mid 1980s. There is no direct access to Upper Shellmaker Island from Lower Shellmaker. A large section of the disturbed section of North Shellmaker is open sandy habitat, at supra-tidal elevations, while the fringes of North Shellmaker consist of salt marsh and mudflats. A mitigation plan was developed in the early 1990s to restore approximately 3 acres of Upper Shellmaker to mudflat and salt marsh habitat as mitigation for the proposed Castaways Marina project (Coastal Resources Management 1992) but was never implemented since the marina project was also never built.

Photos of the site and surrounding properties are shown in Exhibit A-3.1 through A-3.6.

The University of California, Irvine rowing facility is located adjacent to the proposed Back Bay Science Center but is not part of the current project. Reconstruction of that facility is anticipated at an undetermined future time, and CEQA documentation will be prepared separately prior to approval and construction.

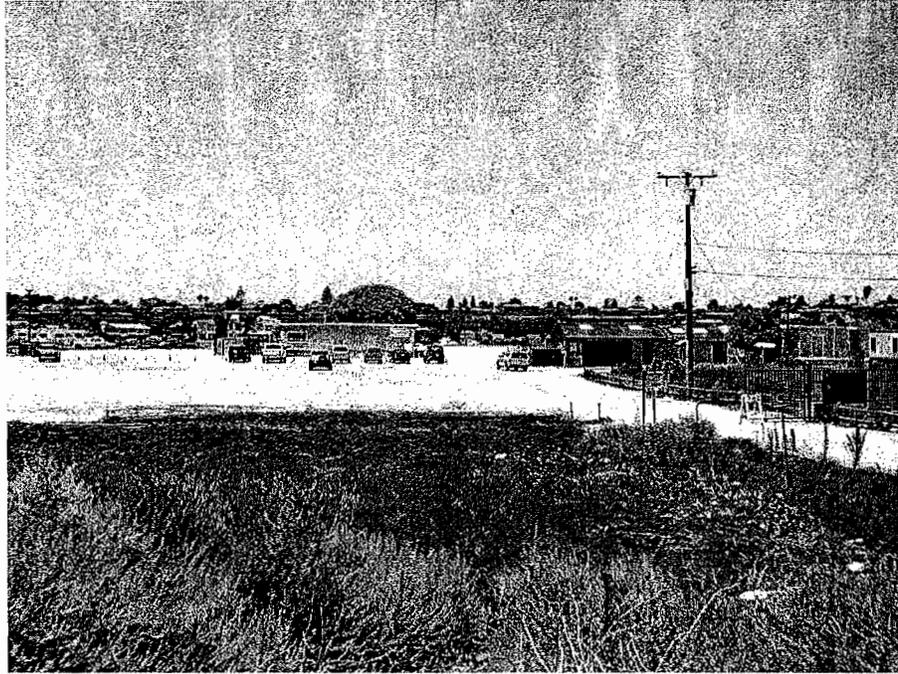


EXHIBIT A-3.1
LOOKING WEST FROM SHELLMAKER DRIVE ENTRANCE ROAD

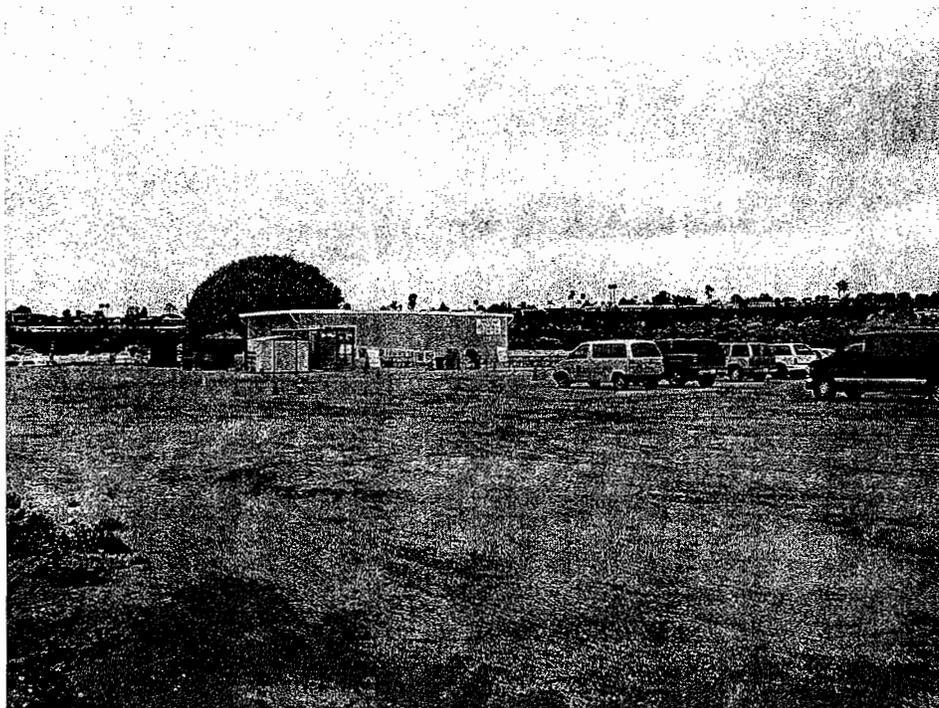


EXHIBIT A-3.2
LOOKING NORTHWEST FROM PARKING AREA



EXHIBIT A-3.3
LOOKING NORTHWEST ACROSS UPPER NEWPORT BAY CHANNEL



EXHIBIT A-3.4
LOOKING SOUTH ALONG WESTERN EDGE OF SITE



EXHIBIT A-3.5
AMPHITHEATER AREA

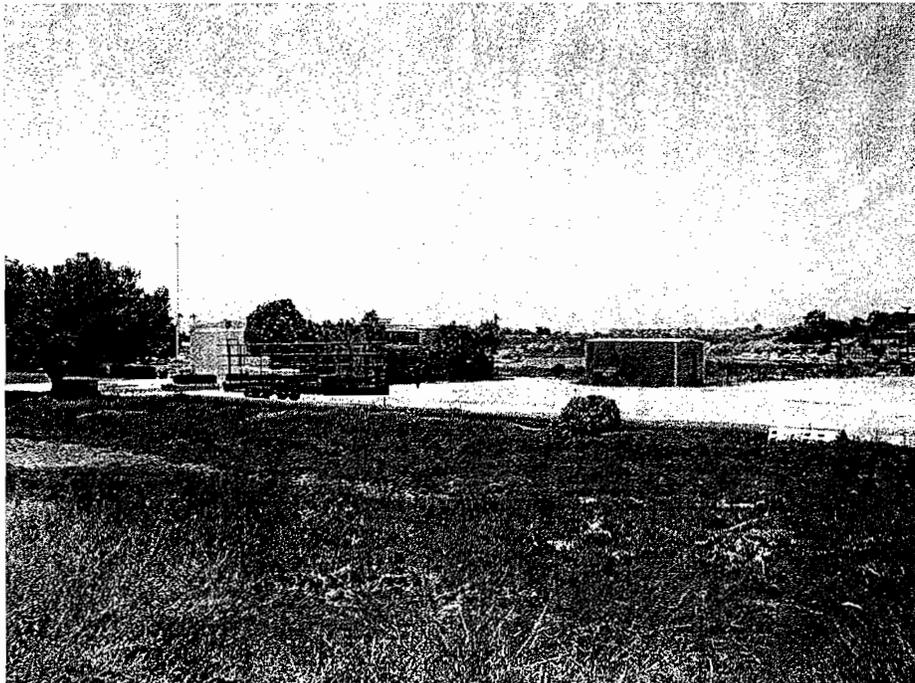


EXHIBIT A-3.6
UCI ROWING FACILITY ON SOUTHERN PORTION OF SHELLMAKER ISLAND
(Not a part of this project)

10. OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED (e.g., permits, financing approval, or participation agreement):

The actions and approvals required to implement the project, which are part of this analysis, include the following:

- Approval of plans & specifications by the Department of Fish and Game and the US Fish and Wildlife Service.
- Approval of a Coastal Development Permit by the California Coastal Commission
- Approval of building permits, certificates of use and occupancy, and funding participation by the City of Newport Beach
- Allocation of grant funds by US Fish and Wildlife Service under the Wildlife Conservation and Restoration Program

Other agencies having review or permit authority over the project will be identified during the environmental review process.

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B. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

Aesthetics	Agricultural Resources	Air Quality
Biological Resources	Cultural Resources	Geology / Soils
Hazards & Hazardous Materials	Hydrology / Water Quality	Land Use / Planning
Mineral Resources	Noise	Population / Housing
Public Services	Recreation	Transportation / Traffic
Utilities / Service Systems	Mandatory Findings of Significance	

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.


Signature

09/17/03
Date

C. F. Raysbrook, Regional Manager
South Coast Region
Department of Fish and Game

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C. EVALUATION OF ENVIRONMENTAL IMPACTS

A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

"Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact". The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses", may be cross-referenced).

Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). Earlier analyses are discussed in Section XVII at the end of the checklist. In this case, a brief discussion should identify the following:

- a) Earlier Analysis Used. Identify and state where they are available for review.
- b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
- c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated", describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

The explanation of each issue should identify:

- a) The significance criteria or threshold, if any used to evaluate each question; and
- b) The mitigation measure identified, if any, to reduce the impact to less than significant.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the proposal:				
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?		X		
II. AGRICULTURE RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?				X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?			X	
d) Expose sensitive receptors to substantial pollutant concentrations?			X	
e) Create objectionable odors affecting a substantial number of people?			X	
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?			X	
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X
VI. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:		X		
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.		X		
ii) Strong seismic ground shaking?		X		
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?		X		
b) Result in substantial soil erosion or the loss of topsoil?		X		
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?		X		
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
VII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?				X
b) Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?		X		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?		X		
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?		X		
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			X	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?			X	
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?		X		
f) Otherwise substantially degrade water quality?		X		
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood hazard Boundary of Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within 100-year flood hazard area structures, which would impede or redirect flood flows?				X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X

IX. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			X	
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?			X	
X. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
XI. NOISE. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			X	
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

XII. POPULATION AND HOUSING. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X
XIII. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?			X	
b) Police protection?		X		
c) Schools?				X
d) Parks?				X
e) Other public facilities?				X
XIV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?				X

XV. TRANSPORTATION/TRAFFIC. Would the project:				
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?		X		
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?			X	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		X		
e) Result in inadequate emergency access?			X	
f) Result in inadequate parking capacity?		X		
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?		X		
XVI. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			X	
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?			X	
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			X	

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?			X	
XVII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X	
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)			X	
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

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ENVIRONMENTAL ANALYSIS

This section provides the explanations and supporting analysis for the impact categories and questions contained in the previous checklist, and identifies mitigation measures where applicable.

I. AESTHETICS

Would the project:

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. Policies contained in the City's General Plan and the Coastal Act address impacts on public views. Public views are those from public streets and property, as opposed to private views from homes and other private property. There are no Coastal Act or City policies addressing private views. The site is visible from Back Bay Drive, a public road adjacent to the east, from the Bayview Landing Park site, and from Coast Highway. Across the bay to the west, the site is visible from the blufftop trail adjacent to Castaways park, and from the Newport Aquatic Center. Existing views of the site from these locations are shown in Exhibits C-I.1 through C-I-11. The site is also visible from several residential areas, including Harbor Cove, Park Newport Apartments and Eastbluff, as well as the Hyatt Newporter resort on the east side of the bay. Across the bay to the west are residential areas with views of the site. The site is also visible from portions of the Newport Dunes resort and Back Bay Café.

Since the property is currently occupied with several structures, the evaluation of view impacts should compare the existing appearance of the property to its appearance upon completion. Since the existing facilities are mostly very basic trailer-type structures and storage sheds, the new buildings would represent an improvement to the aesthetics of the site.

The entry portion of the new structures would have a maximum roof peak of 28 feet while the wings would have a roof peak of 15-16 feet. This would be similar to the roof heights of other single-story structures in the vicinity such as Back Bay Café and Newport Dunes.

The project would have a beneficial effect on both public and private views since the permanent buildings would be more attractive than the existing temporary facilities. There may be a temporary negative visual impact during grading and construction activities but this is not considered significant. No mitigation measures are necessary.

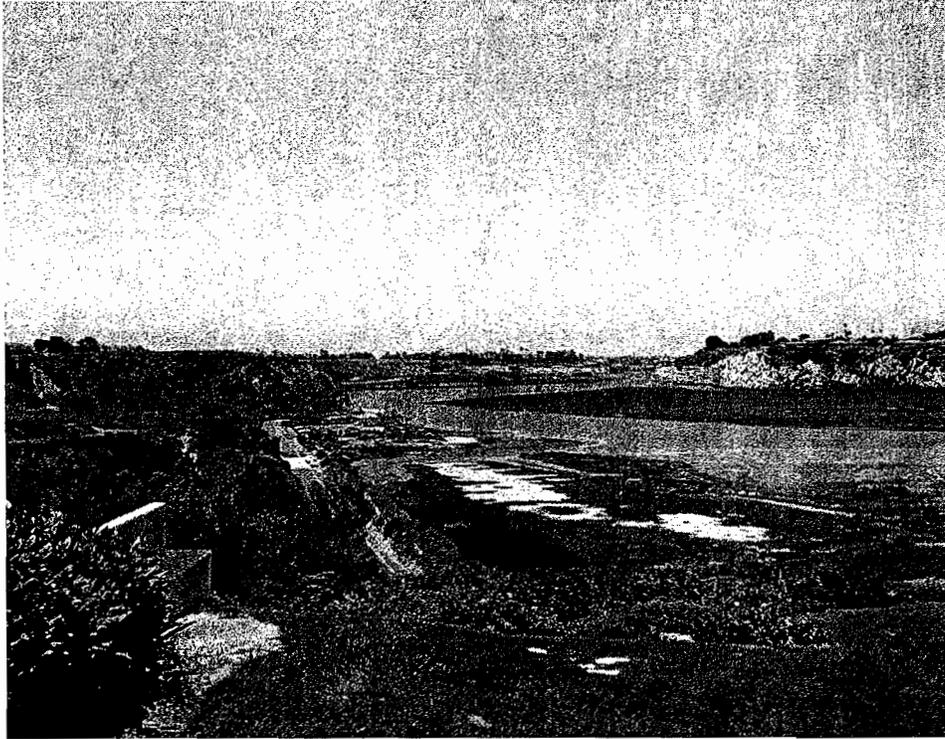


EXHIBIT C-I.1
VIEW LOOKING SOUTH FROM EASTBLUFF NEIGHBORHOOD



EXHIBIT C-I.2
VIEW LOOKING SOUTHWEST FROM PARK NEWPORT APARTMENTS



EXHIBIT C-I.3
VIEW LOOKING SOUTHWEST FROM HARBOR COVE NEIGHBORHOOD



EXHIBIT C-I.4
VIEW LOOKING SOUTHWEST FROM BACK BAY DRIVE

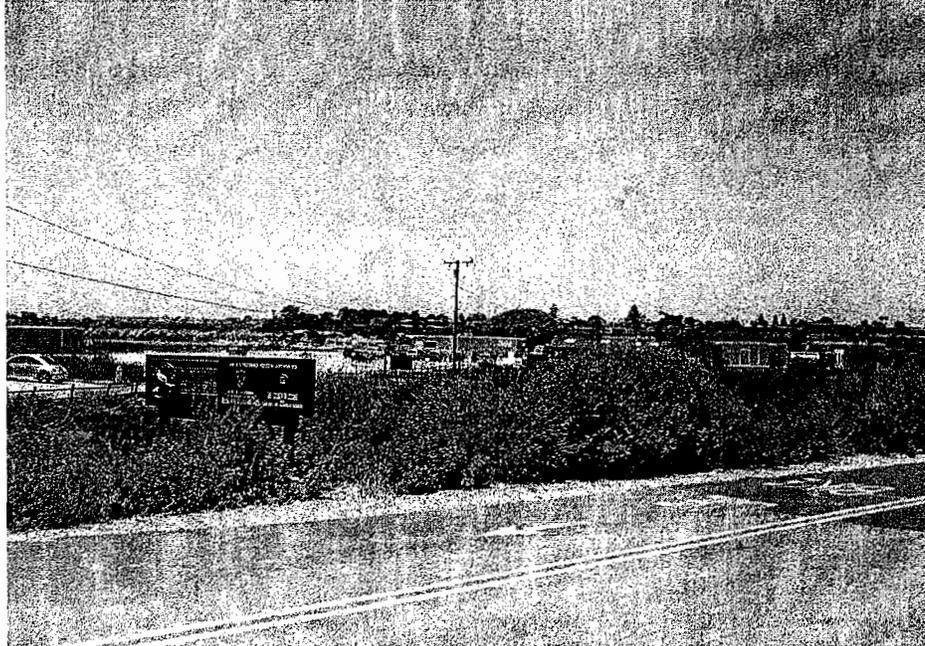


EXHIBIT C-I.5
VIEW LOOKING WEST FROM BACK BAY DRIVE



EXHIBIT C-I.6
VIEW LOOKING WEST FROM HYATT NEWPORTER

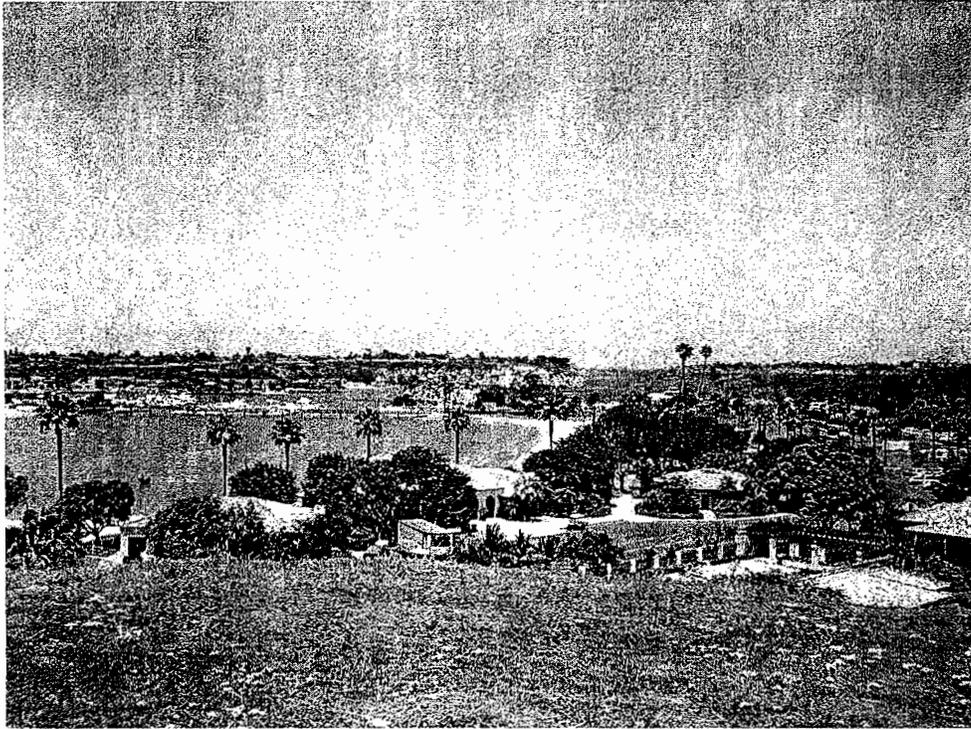


EXHIBIT C-I.7
VIEW LOOKING NORTH FROM BAYVIEW PARK SITE

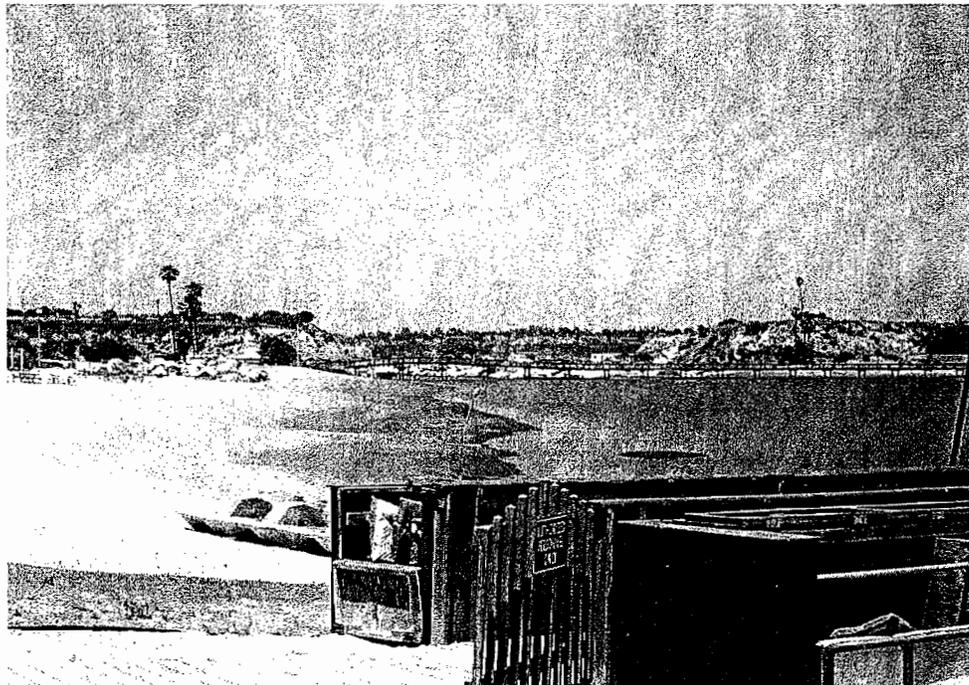


EXHIBIT C-I.8
VIEW LOOKING NORTH FROM WEST SIDE OF NEWPORT DUNES LAGOON

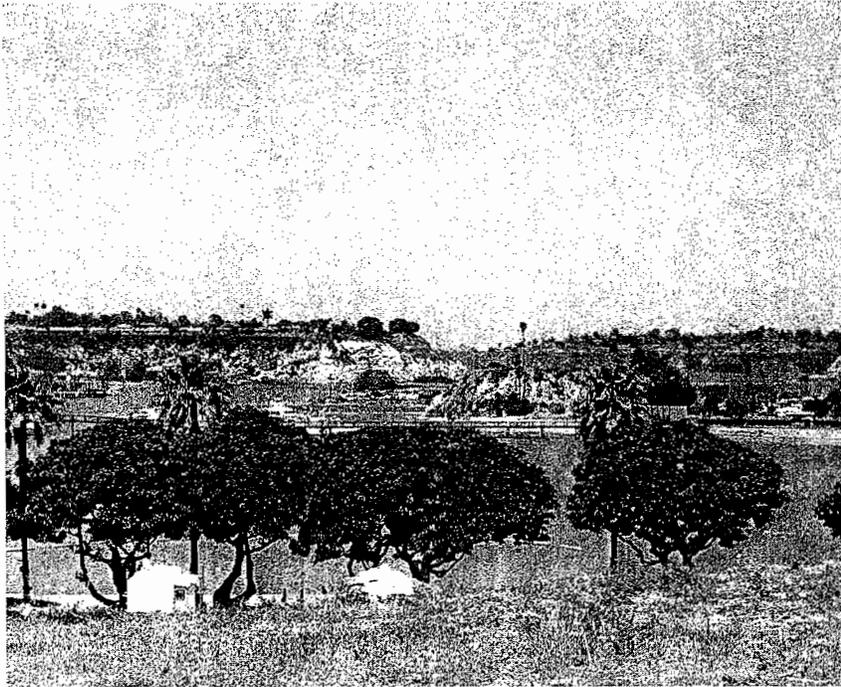


EXHIBIT C-I.9
VIEW LOOKING NORTH FROM COAST HIGHWAY ACROSS NEWPORT DUNES



EXHIBIT C-I.10
VIEW LOOKING EAST FROM CASTAWAYS BLUFFTOP TRAIL

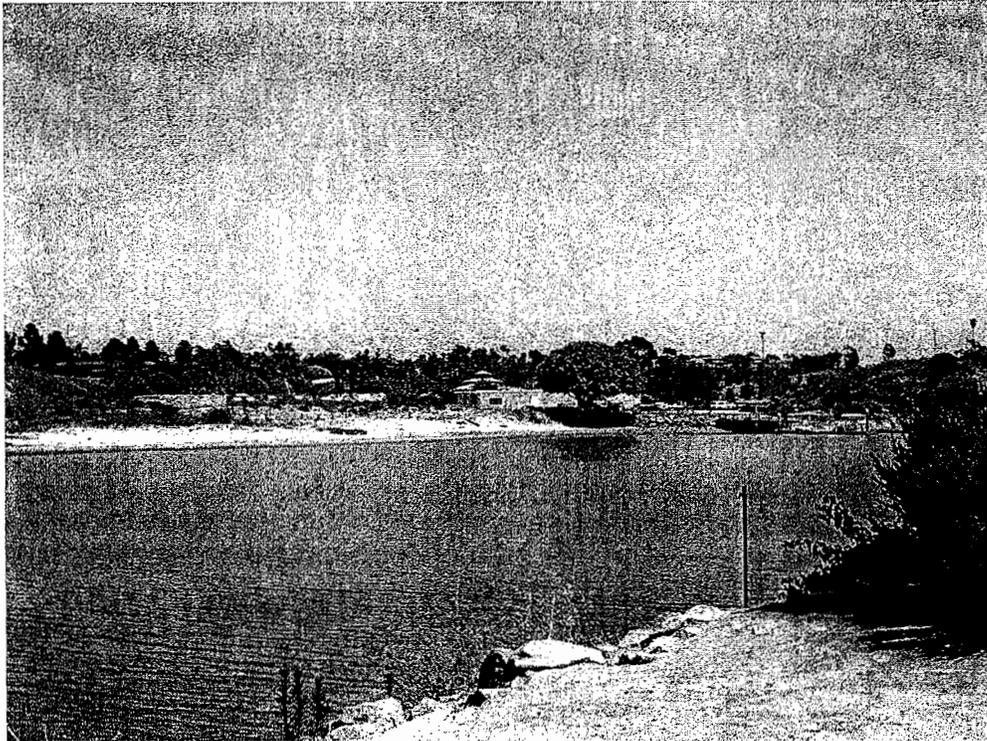


EXHIBIT C-I.11
VIEW LOOKING EAST FROM NORTH STAR CUL-DE-SAC

- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less Than Significant Impact. Coast Highway (SR-1) is designated a state scenic highway. There are no rock outcroppings or historic buildings on the project site. There is a large ficus tree along the western edge of the property, which will be retained in the proposed plan. A small grove of eucalyptus trees and other exotic species located on the southern portion of the site would be removed as part of the project, but this is not considered a significant scenic resource.

The primary scenic resource in the vicinity of the project site is Upper Newport Bay. There is also a coastal bluff across Back Bay Drive to the east, which may be considered a significant scenic resource. The project would not substantially alter public views of these scenic resources. No mitigation measures are necessary.

- c) **Substantially degrade the existing visual character or quality of the site and its surroundings?**

Less Than Significant Impact. See discussion under I.a and I.b, above. No mitigation measures are necessary.

- d) **Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?**

Less Than Significant Impact With Mitigation. Since the site is currently developed, the proposed project would not create a new source of light, although exterior lighting of the new facilities could cause glare and adversely affect nighttime views from nearby properties if not properly controlled. In order to minimize the potential for light spillage and glare, the following mitigation measure will be imposed on the project.

Mitigation Measure

MM I-1

Exterior on-site lighting shall be shielded and confined within site boundaries. No direct rays or glare are permitted to shine onto public streets or adjacent sites or create a public nuisance. "Walpak" type fixtures shall not be permitted. All security lighting shall be selected, installed and shielded to avoid glare in adjacent marsh areas.

This mitigation measure would reduce potential impacts to a level that is less than significant.

II. AGRICULTURE RESOURCES

Would the project:

a) **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

No Impact. No agricultural activities occur in the project vicinity. No mitigation measures are necessary.

b) **Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

No Impact. The site is not zoned for agriculture and there are no Williamson Act contracts in the vicinity. No mitigation measures are necessary.

c) **Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use?**

No Impact. The project would not involve any changes that could result in the conversion of farmland. No mitigation measures are necessary.

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

a) **Conflict with or obstruct implementation of the applicable air quality plan?**

No Impact. The project site is within the South Coast Air Basin (SCAB), which includes Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. Air quality conditions in the Basin are under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD and the Southern California Association of Governments (SCAG) are responsible for formulating and implementing an Air Quality Management Plan (AQMP) for the Basin. The current AQMP was approved in 1997. Implementation of the AQMP is based on a series of control measures that vary by source type, such as stationary or mobile, as well as by the pollutant targeted. Since the AQMP is based on growth projections reflected in local general plans, only new or amended general plans, or projects that exceed the level of development contemplated in the general plan have the potential to conflict with the AQMP. The proposed project is consistent with the Newport Beach General Plan, therefore no conflict with the AQMP would occur. No mitigation measures are required.

b) **Violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

Less Than Significant Impact. The project would result in short-term emissions during construction (e.g., dust, construction equipment exhaust) and long-term emissions due to traffic generated by the project after construction is completed.

Emissions Standards. California and Federal Ambient Air Quality Standards are shown on Table III-1. In its CEQA Air Quality Handbook, the SCAQMD provides specific criteria for determining whether the potential air quality impacts of a project are significant. These thresholds are as follows:

Thresholds of Significance for Construction Emissions

- 75 pounds per day of ROC or 2.5 tons per quarter
- 100 pounds per day of NO_x or 2.5 tons per quarter
- 550 pounds per day of CO or 24.75 tons per quarter
- 150 pounds per day of PM₁₀ or 6.75 tons per quarter
- 150 pounds per day of sulfur oxides (SO_x) or 6.75 tons per quarter

Thresholds of Significance for Operational Emissions

- 55 pounds per day of ROC
- 55 pounds per day of NO_x
- 550 pounds per day of CO
- 150 pounds per day of PM₁₀
- 150 pounds per day of SO_x

Localized Criteria Pollutants Concentration Standards

- California State 1-hour standard of 20.0 ppm
- California State 8-hour standard of 9.0 ppm

Project Emissions. Tables 6-2 and 6-3 of the AQMD CEQA Handbook provide guidance for determining whether a project could exceed these thresholds of significance during construction or operations. For construction emissions, the threshold for an office project is 559,000 square feet of gross floor area. The proposed project would contain approximately 13,000 square feet of gross floor area, therefore it is well below the threshold of significance. The threshold for grading is 177 acres. The proposed project would require that a maximum of 3.5 acres be graded or disturbed, therefore the project is below the threshold of significance for grading activities. For demolition, the threshold is 23,214,000 cubic feet of building area. The facilities to be demolished contain approximately 86,000 cubic feet of space, which is also far below the threshold.

TABLE III-1

Ambient Air Quality Standards							
Pollutant	Averaging Time	California Standards ¹		Federal Standards ²			
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷	
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	0.12 ppm (235 µg/m ³) ⁸	Same as Primary Standard	Ultraviolet Photometry	
	8 Hour	—		0.08 ppm (157 µg/m ³) ⁸			
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation*	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	20 µg/m ³		50 µg/m ³			
Fine Particulate Matter (PM2.5)	24 Hour	No Separate State Standard		65 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	15 µg/m ³			
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	None	Non-Dispersive Infrared Photometry (NDIR)	
	1 Hour	20 ppm (25 mg/m ³)		35 ppm (40 mg/m ³)			
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—			
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	—	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³)	Same as Primary Standard	Gas Phase Chemiluminescence	
	1 Hour	0.25 ppm (470 µg/m ³)		—			
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m ³)	—	Spectrophotometry (Pararosaniline Method)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (365 µg/m ³)			
	3 Hour	—		—			0.5 ppm (1300 µg/m ³)
	1 Hour	0.25 ppm (655 µg/m ³)		—			—
Lead ⁹	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	Same as Primary Standard	High Volume Sampler and Atomic Absorption	
	Calendar Quarter	—		1.5 µg/m ³			
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No			
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography	Federal			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence	Standards			
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography				

⁸ On June 20, 2002, the Air Resources Board approved staff's recommendation to revise the PM10 annual average standard to 20 µg/m³ and to establish an annual average standard for PM2.5 of 12 µg/m³. These standards will take effect upon final approval by the Office of Administrative Law, which is expected in February 2003. Information regarding these revisions can be found at <http://www.arb.ca.gov/research/aaqs/std-rs/std-rs.htm>.

See also footnotes on next page ...

California Air Resources Board (1/9/03)

TABLE III-1 Continued

1. California standards of ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter-PM10, PM2.5, and viability reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when 90 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a 'consistent relationship to the reference method" and must be approved by the EPA.
8. New Federal 8-hour ozone and fine particulate matter standards were promulgated by U.S. EPA on July 18, 1997. Contact U.S. EPA for further clarification and current federal policies.
9. The ARB has identified lead and vinyl chloride as toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

The screening threshold for operational emissions is 245,000 square feet for a research center project. The project proposes 13,000 square feet, which is below the threshold.

Project Design Features and Standard Conditions

SC III-1

In order to reduce construction related fugitive dust, SCAQMD Rule 403 will be implemented during construction. Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source, Implementation of these dust suppression techniques can reduce dust generation and PM10 by 50 to 75 percent. Implementation of the following measures will reduce short-term fugitive dust impacts on nearby sensitive receptors.

- *Apply non-toxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).*
- *Water active sites at least two times daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)*
- *All trucks hauling dirt, sand, soil, or other loose materials are to be covered, or should maintain at least two feet of freeboard in accordance with the requirements of California Vehicle Code Section 23114 (freeboard refers to the vertical distance between the top of the load and the top of the trailer walls).*
- *Pave construction access roads at least 100 feet onto the site from the main road.*
- *Traffic speeds on all unpaved roads shall be limited to 15 mph or less.*
- *Revegetate disturbed areas as quickly as possible.*
- *All excavating and grading operations shall be suspended when wind speeds (as instantaneous gusts) exceed 25 mph.*
- *All streets shall be swept once a day if visible soil materials are carried to adjacent streets. Water sweepers with reclaimed water are recommended.*
- *Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip.*

SC III-2

Plan specifications shall include a statement that the contractor shall attempt to reduce VOC emissions by 1) using precoated/natural colored building materials; 2) using water-based or low-VOC coating; and 3) coating transfer or spray equipment with high transfer efficiency, such as high-volume low-pressure (HVLP) spray method, or manual coatings application, such as paint brush, hand roller, trowel, spatula, dauber, rag, or sponge. The plan specifications shall be approved by the Department of Fish and Game or its designee.

SC III-3

In order to reduce operational energy usage and reduce energy production air emissions, the project is required to comply with Title 24 of the California Code of Regulations established by the California Energy Commission regarding energy conservation standards.

With the standard conditions listed above, potential impacts would be less than significant. No mitigation measures are necessary.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less Than Significant Impact. See Section III.a, above.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. See Section III.a, above.

e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. Diesel-powered equipment used for construction could cause odors and emissions that may be offensive to sensitive receptors. The closest sensitive use to the project area is the Back Bay Café, located more than 300 feet from most portions of the site. This would be a temporary impact and is not considered significant, therefore no mitigation is necessary.

IV. BIOLOGICAL RESOURCES

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact With Mitigation. In order to determine the potential impacts of the project on biological resources, Rick Ware of Coastal Resources Management and Kathleen Keane of Keane Biological Consultants were retained to conduct a biological assessment of the site. The following information is drawn from CRM's analysis, as well as a field survey conducted by Keane Biological Consultants, which is included as Appendix 1.

1. Biological Characteristics

Site analyses were conducted at Shellmaker Island during several field visits between April 2002 and April 2003. The following discussion presents a review of the general biological communities and common plants and animals present at the Lower Shellmaker Island project site, and a review of site-specific information obtained during previous work conducted on Shellmaker Island. Additional information on the vegetation and bird use of Upper Shellmaker Island (Coastal Resources Management 1992) also was used as historical information for Lower Shellmaker, since the areas are likely to have similar associations. Exhibit C-IV.1 shows the existing vegetation and habitat of the site.

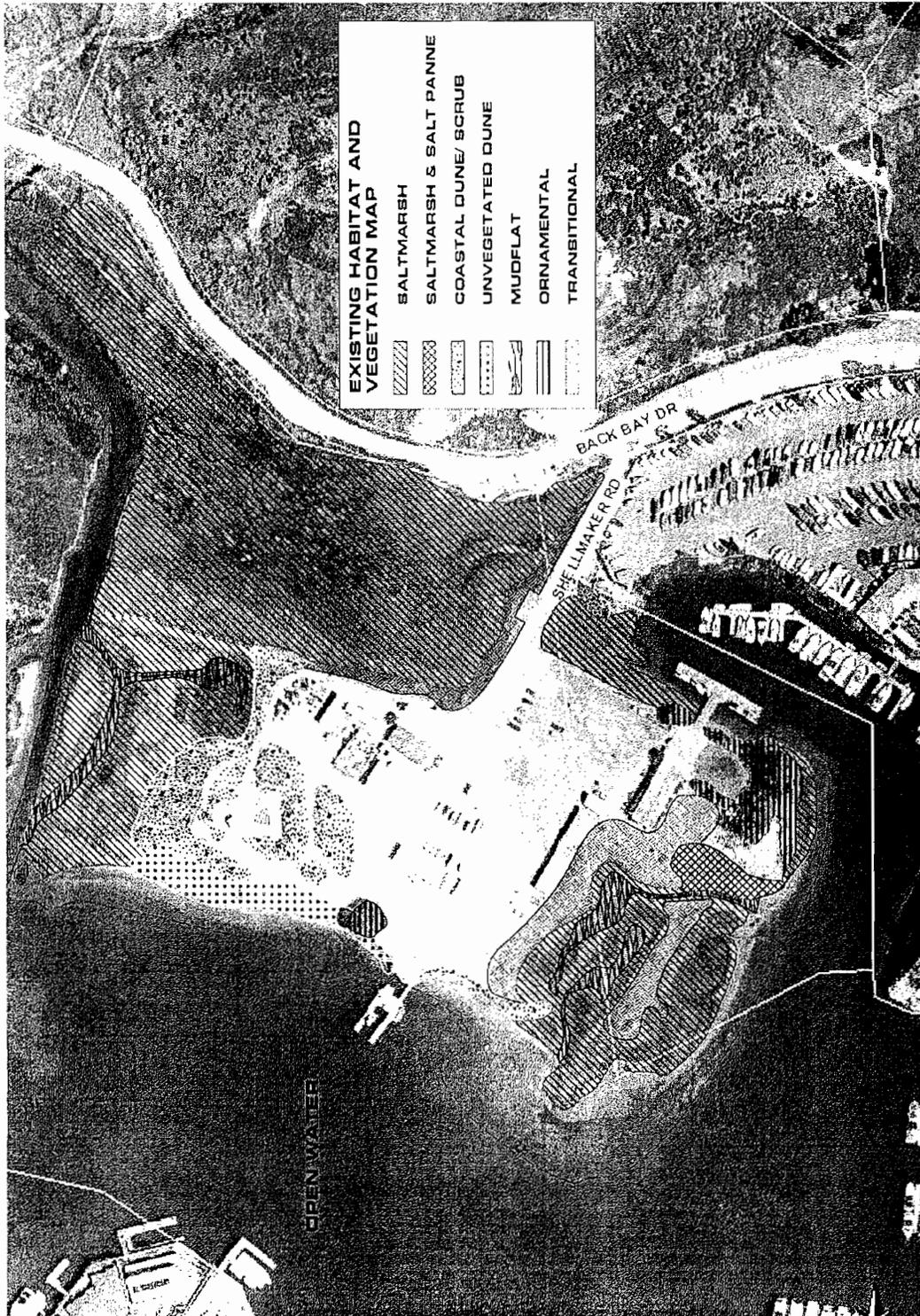
Regions of Shellmaker Island discussed within the following section include:

- Lower Shellmaker Island. This area includes the waters, shoreline, and land located between the Dunes Marina and the CDFG tidal channel cut which separates Lower Shellmaker Island from Upper Shellmaker Island
- UCI Crew Base Channel. This back channel is located on the eastern side of Lower Shellmaker Island and connects to the Dunes Marina launch ramp channel
- Dunes Marina Launch Ramp Channel. Located on the south side of Lower Shellmaker Island that intersects with the main channel of Upper Newport Bay.
- Marine Science Center and CDFG Facility Area and Parking Lot. Facilities located on Lower Shellmaker Island
- Amphitheater. Teaching and Interpretive area located immediately north of CDFG headquarters.

Upland Habitat and Vegetation Community. Sandy upland areas, composed of previously filled dredge materials are located above approximately +10 feet [MLLW]). These areas also include raised, berm-like areas scattered throughout the southern marsh and open habitat within the Marine Science Center/CDFG Facility, and UCI Rowing Center. These soils are covered by a sparse to moderate cover of ruderal grasses and forbs, a few shrubs, and transitional strand vegetation (sea-fig, *Carpobrotus aequilaterus*). The dominant forbs in the sandy upland areas typically include telegraph weed (*Heterotheca grandiflora*), coastal wooly-head (*Nemacaulis denuda*), western tansy-mustard (*Descurainia pinnata*), and filaree (*Erodium* sp). Mulefat (*Baccharis salicifolia*), coyote brush (*Baccharis pilularis*), and saltbush (*Atriplex* sp.) are also bound on Shellmaker Island, although these occur at higher elevations (+13 to +17 feet MLLW). Myoporum (*Myoporum laetum*) and *Eucalyptus* trees are found near the UCI Rowing Center, and one Indian Laurel (*Ficus*) tree is located at the western edge, near the Marine Science Center dock facility.

Transitional strand habitat and vegetation. Transitional strand vegetation includes an array of plants that grow on loose, sandy soils between the salt marsh and higher upland habitats. This habitat is common throughout the fringes of the salt marsh habitats up to the roadways, and

EXHIBIT C-IV.1
VEGETATION PLAN



elevated berms scattered throughout the marsh. Transitional vegetation common within the area includes salt grass (*Distichlis spicata*), sea-fig, and alkali heath (*Frankenia salina* [=*Frankenia grandifolia*])

Salt marsh habitat and vegetation. Salt marsh habitat extends around the perimeter of Lower Shellmaker Island between the UCI Rowing Facility Access Channel and the Main Channel of Upper Newport Bay with the largest stand of salt marsh concentrated at the southern tip of Lower Shellmaker. Salt marsh vegetation grows at elevations between approximately +3 feet and about +7.5 feet- MLLW. Salt marsh plants typically occur in three broad, overlapping zones based on their response to environmental factors including elevation, soil salinity, and competition. These zones are the low, mid, and high salt marsh.

The salt marsh growing at the southern tip of Shellmaker Island consists of a mixture of long-standing vegetation mixed with newer vegetation that colonized the intertidal areas following restoration efforts by CDFG and the County of Orange in 1995. Lowest elevations within the salt marsh support pockets of cordgrass. There are a few moniform stands of cordgrass (*Spartina foliosa*) in the low marsh, along the marsh channel banks of the Dunes Marina Access Channel, and at the terminus of the UCI Rowing Center Access Channel. Typically however, the salt marsh is dominated by a combination of both pickleweed (*Salicornia virginica* and sp. *bigelovii*) and cordgrass (*Spartina foliosa*). Saltwort (*Batis maritima*) and common woody pickleweed (*Salicornia virginica*) are most commonly found at a range of elevations. High salt marsh vegetation includes pickleweed, salt grass, and sea blite (*Suaeda californica*).

Salt marsh bird's beak (*Cordylanthus maritimus* spp. *maritima*), a federal-and state-listed endangered species, is found in several localities on Lower Shellmaker Island and Upper Shellmaker Island (Brian Shelton, California Department of Fish and Game, pers. com). Distinct stands of bird's beak are found along the periphery of the Lower Shellmaker Island salt marsh and transitional habitats and on high spots within the marsh itself, mixed with salt grass, salt wort, sea blite, and sea fig. This species is also found in many other areas on Upper Shellmaker and the eastern marsh of Shellmaker Island (CDF&G, 1991; CRM 1992). Patches of it also occur at the northern end of the pathway next to the CDF&G tidal channel at the juncture of Lower and Upper Shellmaker Island.

The salt marsh and transitional vegetation along the main channel of Upper Newport Bay near the Marine Science Center boat dock and within the UCI Rowing Center Access Channel grows within a narrow band, the result of a steep elevational gradient.

Mudflats. The mudflat habitat is the transition zone between the open water channels and the salt marsh at elevations between -2 ft and +3.5 ft MLLW. Diatoms and green algae often cover the surface of the mudflats and are considered to be important because these plants account for a large part of the primary production in southern California coastal wetlands (Zedler 1982). Additionally, the plants are a food source for herbivorous invertebrates, fishes, and birds. The mudflats are also colonized by infaunal and epifaunal community of marine invertebrates which are used as food sources by shorebirds. Common epifaunal species observed at the site include the horn snail (*Cerithidea californica*) and crabs (*Hemigrapsus oregonensis*). Estimates of horn snail density on the mudflats along the periphery of Lower Shellmaker in April 2003 ranged from

256 to 586 individuals per square meter, the majority of which fronts the main channel and the tidal channel south of the project site.

Higher elevation mudflats (salt pannes) at elevations about +6 to +8 ft MLLW occur both within open areas in the central part of the salt marsh and near the UCI Rowing Center.

Open Water and Shallow Subtidal Bottom Habitat. The open water and subtidal bottom habitat in Upper Bay channels extends from depths of between -2 ft to -15 ft MLLW. Sediments in the channel are unconsolidated silts with some outcrops of clay material. Open water habitat surrounds Lower Newport Bay, in the UCI Rowing Center Access Channel, the Dunes Marina Launch Ramp Access Channel, and the Main Channel of Upper Newport Bay.

Tidal creeks bisect the salt marsh of Lower Shellmaker Island. These small, meandering channels are important features of natural marsh habitats.

2. Biota of the Project Area

Invertebrates. Mudflats and open sandy areas are colonized by tiger beetles, several of which were observed on mudflats and higher salt pans during field surveys conducted in August 1992. They resembled *Cicindela oregona* and *Cicindela punctata*, but could not be positively identified. They are however, not likely to be sensitive species (Fuller 1992). Other species which are considered sensitive, due to loss of their habitat, are discussed in the following section.

The mudflats and shallow subtidal sediments support a food base of infaunal and epifaunal invertebrates that are preyed upon by both shorebirds and bottom foraging fishes. The shallow benthic and mudflat habitats in the vicinity of Shellmaker Island support at least 94 species of benthic invertebrates, dominated in richness and abundance by capitellid and spionid polychaete worms, oligochaete worms, and amphipod crustaceans (MBC & SCCWRP 1980).

Fishes. At least 75 species of fish are known to occur in the Upper Bay between the Coast Highway and Jamboree bridges (Michael Brandman Associates 1991). At high tide, submerged mudflats become important fish foraging habitat. The shallow subtidal habitat of Upper Newport Bay is an important nursery habitat for halibut and other fishes such as gobies [family Gobiidae], topsmelt (*Atherinops affinis*), anchovies (family Engraulidae), croakers (family Sciaenidae), diamond turbot (*Hypsopsetta guttulata*), and sand bass (*Paralabrax nebulifer*). Others which commonly occur in the main channel near the project site are shiner perch (*Cymatogaster aggregata*), striped mullet (*Mugil cephalus*), round sting ray (*Urolophus halleri*), and staghorn sculpin (*Leptocottus armatus*).

California halibut are consistently found in the shallow waters between the Coast Highway Bridge and the dike. Allen (1988) reported most individuals captured between Shellmaker Island and the dike were young of the year YOTY (less than 80 mm in length) and second-year individuals (80 mm to about 160 mm). Halibut abundances were positively correlated to increasing salinities (Allen 1988). The waters in the vicinity of Shellmaker Island are generally well mixed and salinities are within ranges that support YOTY and juvenile halibut (Orange County Department of Public Health 1978, MBC and SCCWRP 1980).

Reptiles. A survey was conducted in August of 1992 on Upper Shellmaker to determine the potential for reptiles, including sensitive species, to be present within the proposed mitigation area

(Fuller 1992). Two species of reptiles were found; the side-blotched lizard (*Uta stansburiana*) and the western fence lizard (*Sceloporus occidentalis*). These commonly occur in the region.

Avian Resources. Bird surveys were conducted in the vicinity of the project area on August 19, 1991 (Coastal Resources Management 1992) and more recently between April 2002 and April 2003 (Keane Biological Consulting 2002). A variety of birds were observed along the channels and banks, over the open water, and roosting on mudflats and in the low and middle salt marsh. Among the water birds, the marbled godwit (*Limosa fedoa*), elegant tern (*Sterna elegans*), and Forrester's tern (*Sterna forsteri*) were the most numerous, especially on the mudflats in the vicinity of the CDF&G tidal channel that bisects Shellmaker Island. Other common species seen included snowy egret (*Egretta thula*), killdeer (*Charadrius vociferus*), willet (*Catoptrophorus semipalmatus*), whimbrel (*Numenius phaeopus*), and caspian tern (*Sterna caspia*). Pied-billed grebe (*Podilymbus podiceps*), great blue heron (*Ardea herodias*), black-bellied plover (*Pluvialis squatarola*), greater yellowlegs (*Tringa melanoleucus*), long-billed curlew (*Numenius americanus*), long-billed dowitcher (*Limnodromus scolopaceus*), ring-billed gull (*Larus delawarensis*), California gull (*Larus californicus*), and western gull (*Larus occidentalis*) were also observed. Others that are expected to be present at other times of the year include various ducks, sernipalmated plover (*Charadrius semipalmatus*), short-billed dowitcher (*Limnodromus griesus*), and common tern (*Sterna hirundo*). Two endangered species of birds, the California light-footed clapper rail (*Rallus longirostris levipes*) and Beldings savannah sparrow (*Passerculus sandwichensis beldingi*) are also resident on Shellmaker Island. On Lower Shellmaker, one pair of breeding Belding savannah sparrows was observed during 2002. Individual savannah sparrows were heard, but not seen in the April 2003 surveys (Kathy Keane, pers. com., April 2003).

Substantially higher abundances and a greater diversity of shorebirds species are expected during the late fall through spring overwintering period of transients and winter residents. The types of birds and numbers of birds are also expected to vary depending on the time of day and tidal conditions.

The site supports very poor habitat for land birds based on bird observations during 2002 and 2003; only the mourning dove (*Zenaida macroura*) was observed in large numbers. The doves were feeding on the dredge spoil among the ruderal (weedy) vegetation in front of the CDF&G buildings. In addition to mourning doves, the American crow (*Corvus brachyrhychos*), northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), and house sparrows (*Passer domesticus*) were present. A number of barn swallows (*Hirundo rustica*) were observed hawking insects over the island in 1991, but were also foraging over nearby marshes and over the open water. Several turkey vultures (*Cathartes aura*) were seen soaring over the open water and the island, and might occasionally use the site should a food source be present. Other locally common land birds, such as the black phoebe (*Sayornis nigricans*) and house finch (*Carpodacus mexicanus*) are expected to be occasionally present. There is no record of any nesting species on Shellmaker Island. The presence of sensitive species of birds on Shellmaker Island is discussed below. A complete list of bird species present in the entire Upper Newport Bay Ecological Reserve is found in Appendix 2.

Mammals. Thompson (1978) listed a total of 17 species of mammals which have been recorded in the Reserve, of which 7 occurred on Shellmaker Island. These include house mouse (*Mus musculus*), raccoon (*Procyon lotor*), Mexican opossum (*Didelphis marsupialis*), striped skunk (*Mephitis mephitis*), house cat (*Felis domesticus*), California ground squirrel (*Spermophilus beecheyi*), and cottontail rabbit *Sylvilagus audubonii*.

3. Sensitive Species.

Plants. The distribution of the federal- and state-listed salt-marsh bird's beak (*Cordylanthus maritimus* spp. *maritima*) was mapped in 1991 by Fred Roberts for the CDF&G. Additional site surveys conducted on Upper Shellmaker Island by Coastal Resources Management in May and July 1992 corroborated the 1991 data. Brian Shelton, of CDFG mapped this species on Lower Shellmaker Island (and other areas of Upper Newport Bay) in 2002. Generally, salt marsh bird's beak is found in the high salt marsh meadows and transitional habitats on Shellmaker Island. Large patches of this species are found on Lower Shellmaker Island, in the marsh at the southern end of the island.

Invertebrates. While no sensitive insects are currently known from Lower Shellmaker Island, potentially suitable habitat is present on dredge material "dune" habitat and mudflats surrounding the marsh. Sensitive insects that have a potential to be found here include the wandering skipper butterfly (*Panoquina panoquinoides errans*), globose dune beetle (*Coelus globosus*), Gabb's tiger beetle (*Cincindela gabbii*), sandy beach tiger beetle (*C. hirticollis gravida*), and the sand dune tiger beetle (*C. latesignata*). The most likely species to occur on Shellmaker are the wandering skipper, which associates with the high intertidal salt grass habitat, and the globose dune beetle. Both were found on the Bayside peninsula during insect surveys conducted in 1984 by Gordon Marsh, of the University of California (Marsh 1985).

The California brackish water snail (*Tryonia imitator*) is a federal species of concern. It occurs in Upper Newport Bay and prefers shallow, coarse sediments in low salinity (brackish) areas at the mouth of the Santa Ana-Delhi channel and the San Diego Creek. It is also recorded from the main channel near Shellmaker Island, but in significantly lower densities and mostly during winter and spring when storm water run-off reduces the salinity in the main channel (MBC and SCCWRP 1980).

Fishes. No listed species of fish occur in Newport Bay. However, California halibut is considered a locally important species because of it is commercially valuable and its nursery habitat in coastal bays and wetlands have been reduced. California halibut spawn at sea and the larval stages are planktonic. After several months, the larval fish settle to the bottom, and migrate into shallow coastal waters, including embayments such as Alamitos Bay, Anaheim Bay, Outer Bolsa Chica, and Newport Bay. Halibut are distributed throughout Lower and Upper Newport Bay; however, the YOTY prefer shallow waters between about -1.5 feet and -3.5 feet MLLW, whereas juveniles prefer deeper channel bottoms. After nearly nine months in Newport Bay, juveniles will move out into the open coastal environment.

Birds. Several species of birds are considered to be sensitive because of the loss of habitat and/or a reduction in their populations.

The state endangered Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) is a year-round resident and breeder in Upper Newport Bay. Its preferred nesting habitat is pickleweed-dominated mid to high salt marsh. In 1996, the population in Upper Newport bay was 252 pairs (Chambers Group 2000). This species is found throughout Upper Newport Bay.

The state and federal endangered light-footed clapper rail (*Rallus longirostris levipes*) is found throughout Upper Newport Bay, utilizing cord grass marsh for nesting at several sites.

Observed nesting areas include Shellmaker Island (northwest section), Middle Island, Upper Island, and in the saltmarsh above the main dike. The resident population of light footed clapper rails represents about 65% of the California population of this species. In 1999, 104 pairs were observed in Upper Newport Bay (Chambers Group 2000).

The state and federal endangered California least tern (*Sterna antillarum brownii*) is a seasonal resident in Upper Newport Bay from April to early September. They nest on the "hot dog" shaped island in the uppermost basin. In 1999, 40 pairs of least terns nested on this island (Chambers Group 2000). In 2000, 60 least tern pair nested in Upper Newport Bay and fledged 12 young (Keane 2001).

The federal threatened coastal California gnatcatcher nests in coastal sage scrub along the margins of Upper Newport Bay, but none have been seen on or near Shellmaker Island.. There are at least 10 pairs breeding in upland habitat surrounding Upper Newport Bay (Gallagher 1997).

Other listed bird species or species of special concern that occur in Upper Newport Bay on a seasonal basis but do not breed there include the state and federal endangered California brown pelican, the federal threatened and California Species of Social Concern western snowy plover, and the state endangered American peregrine falcon. None of these species utilize Shellmaker Island.

The state and federal endangered plant salt marsh bird's beak occurs at several sites in high salt marsh habitat in Upper Newport Bay (Chambers Group 2000). It is the only listed plant species confirmed to occur in Upper Newport Bay Ecological Reserve.

The California brackish water snail, a species categorized as a Federal Species of Concern, is common around freshwater discharges to the Upper Bay.

4. Project Impacts

Thresholds of Significance. The threshold for significance of impacts to Shellmaker Island biological resources is determined by professional judgment of scientists, and in consideration of the relative importance of the habitat and/or species populations affected by project implementation. For the purposes of this analysis, the project's effects on biological resources are considered to be significant if the project would:

- Substantially affect a rare, threatened, endangered, or candidate plant or animal species, or the habitat of any such species;
- Substantially diminish or degrade State of California Ecological Reserve habitat or City of Newport Beach Environmentally Sensitive Habitat Area (ESHA)
- Substantially diminish or degrade habitat for wetland plants and animals;
- Result in notable net loss of a biotic community that is subject to local, state, and/or federal regulations or that is otherwise of very limited occurrence in the region;

- Interfere substantially with the movement of any resident or migratory fish or wildlife species, or persistence of a native plant population; or
- Conflict with adopted environmental policies, general plans, or regulatory policies of the community and State of California.

Relevant Environmental Policies and Laws. The following laws provide guidance for the evaluation of impacts to biological resources.

Section 30231 of the California Coastal Act:

“The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through among other means, minimizing adverse effects of wastewater discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with groundwater flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.”

Section 30105.5 of the California Coastal Act.

Environmentally sensitive areas are “any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily or degraded by human activities and developments”

Section 30240 of the California Coastal Act:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade these areas, and shall be compatible with the continuance of those habitats and recreational areas.

Section 30230 of the California Coastal Act:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economical significance. Use of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 1580 et seq. of the Fish & Game Code

1580. The Legislature hereby declares that the policy of the state is to protect threatened or endangered native plants, wildlife, or aquatic organisms or specialized habitat types, both terrestrial and nonmarine aquatic, or large heterogeneous natural gene pools for the future use of mankind through the establishment of ecological reserves. For the purpose of establishing those ecological reserves, the department, with the approval of the commission, may obtain,

accept on behalf of the state, acquire, or control, by purchase, lease, easement, gift, rental, memorandum of understanding, or otherwise, and occupy, develop, maintain, use, and administer land, or land and nonmarine water, or land and nonmarine water rights, suitable for the purpose of establishing ecological reserves. Any property obtained, accepted, acquired, or controlled by the department pursuant to this article may be designated by the commission as an ecological reserve. The commission may adopt regulations for the occupation, utilization, operation, protection, enhancement, maintenance, and administration of ecological reserves. The ecological reserves shall not be classified as wildlife management areas pursuant to Section 1504 and shall be exempt from Section 1504.

1581. Any property acquired in fee for ecological reserves shall be acquired in the name of the state, and shall, at all times, be subject to such rules and regulations as may be prescribed from time to time by the commission for the occupation, use, operation, protection, and administration of such property as ecological reserves.

1582. The department shall do all things necessary to secure a valid title in the state to the property acquired in fee for ecological reserves but no payment shall be made therefor until the title is vested in and satisfactory to the state. No such land will be acquired by eminent domain.

1583. Except in accordance with the regulations of the commission it is unlawful to enter upon any ecological reserves established under the provisions of this article, or to take therein any bird or the nest or eggs thereof, or any mammal, fish, mollusks, crustaceans, amphibia, reptiles or any other form of plant or animal life.

1584. As used in this article, "ecological reserve" means land or land and water areas that are designated as an ecological reserve by the commission pursuant to Section 1580 and that are to be preserved in a natural condition, or which are to be provided some level of protection as determined by the commission, for the benefit of the general public to observe native flora and fauna and for scientific study or research.

1585. Notwithstanding Section 1580, which sets forth the primary purposes of ecological reserves, the department may construct facilities and conduct programs in ecological reserves it selects to provide natural history education and recreation if those facilities and programs are compatible with the protection of the biological resources of the reserve. As provided in Sections 1764 and 1765, the department may control access, use, and collect fees for selected ecological reserves.

1586. The Upper Newport Bay Ecological Reserve Maintenance and Preservation Fund is hereby created in the State Treasury. Notwithstanding Section 13340 of the Government Code, the money in the fund is continuously appropriated, without regard to fiscal years, to the department for purposes related to the maintenance and preservation of the Upper Newport Bay Ecological Reserve.

*Section 630, Title 14, California Code of Regulations**Chapter 11.
Ecological Reserves***§630. Ecological Reserves.**

The areas specified in this chapter have been declared by the Fish and Game Commission to be ecological reserves. A legal description of the boundaries of each ecological reserve is on file at the department's headquarters, 1416 Ninth Street, Sacramento. Ecological reserves are established to provide protection for rare, threatened or endangered native plants, wildlife, aquatic organism and specialized terrestrial or aquatic habitat types. Public entry and use of ecological reserves shall be compatible with the primary purposes of such reserves, and subject to the following applicable general rules and regulations, except as otherwise provided for in the special area regulations:

(a) General Rules and Regulations:

- (1) Protection of Resources. No person shall mine or disturb geological formations or archeological artifacts or take or disturb any bird or nest, or eggs thereof, or any plant, mammal, fish, mollusk, crustacean, amphibian, reptile, or any other form of plant or animal life in an ecological reserve except as provided in subsections 630(a)(2) and (a)(8). The department may implement enhancement and protective measures to assure proper utilization and maintenance of ecological reserves.*
- (2) Fishing. Fishing shall be allowed in accordance with the general fishing regulations of the commission except that the method of taking fish shall be limited to angling from shore. No person shall take fish for commercial purposes in any ecological reserve except by permit from the commission.*
- (3) Collecting. No collecting shall be done in an ecological reserve except by permit issued pursuant to section 650 of these regulations. Any person applying for a permit must have a valid scientific collecting permit issued pursuant to part 3 of this title.*
- (4) Motor Vehicles. No person shall drive, operate, leave, or stop any motor vehicle, bicycle, tractor, or other type of vehicle in an ecological reserve except on designated access roads and parking areas.*
- (5) Swimming. No person shall swim, wade, dive, or use any diving equipment within an ecological reserve except as authorized under the terms of a permit issued pursuant to subsection (3).*
- (6) Boating. No person shall launch or operate a boat or other floating device within an ecological reserve except by permit from the commission.*
- (7) Trails. The department may designate areas within an ecological reserve where added protection of plant or animal life is desirable, and may establish equestrian or walking trails or paths within such designated areas. No person shall walk or ride horseback in such areas except upon the established trails or paths.*
- (8) Firearms. No person shall fire or discharge any firearm, bow and arrow, air or gas gun, spear gun, or any other weapon of any kind within or into an ecological reserve or possess such weapons within an ecological reserve, except law enforcement personnel and as provided for in individual area regulations that allow for hunting.*

(9) *Ejection.* Employees of the department may eject any person from an ecological reserve for violation of any of these rules or regulations or for any reason when it appears that the general safety or welfare of the ecological reserve or persons thereon is endangered.

(10) *Public Entry.* Public entry may be restricted on any area at the discretion of the department to protect the wildlife, aquatic life, or habitat. No person, except state and local law enforcement officers, fire suppression agencies and employees of the department in the performance of their official duties or persons possessing written permission from the department, may enter any ecological reserve, or portion thereof, which is closed to public entry. No person may enter any Ecological Reserve between sunset and sunrise except with written permission from the Department, which may be granted for purposes including night fishing in accordance with subsection (a)(2) from designated shore areas only.

A \$2.00 day use pass or a valid \$10.00 annual wildlife pass is required of all users of Elkhorn Slough and Upper Newport Bay ecological reserves except for users that possess a valid California sport fishing license hunting license or trapping license, or users that are under 16 years of age or users that are part of an organized youth or school group and having free permits issued by the appropriate regional office. Refer to subsection 550(b)(16)(B), Title 14, CCR, for regulations for fee requirements for wildlife areas.

(11) *Introduction of Species.* Unless authorized by the commission, the release of any fish or wildlife species, including domestic or domesticated species, or the introduction of any plant species, is prohibited. The department may reintroduce endemic species on ecological reserves for management purposes.

(12) *Feeding of Wildlife.* The feeding of wildlife is prohibited.

(13) *Pesticides.* The use of pesticides is prohibited on any ecological reserve unless authorized by the commission with the exception that the department may use pesticides for management purposes and for public safety.

(14) *Litter.* No person shall deposit, drop, or scatter any debris on any ecological reserve except in a receptacle or area designated for that purpose. Where no designated receptacles are provided, any refuse resulting from a person's use of an area must be removed from that area by such person.

(15) *Grazing.* The grazing of livestock is prohibited on any ecological reserve.

(16) *Falconry.* Falconry is prohibited.

(17) *Aircraft.* No person shall operate any aircraft or hovercraft within a reserve, except as authorized by a permit from the commission.

(18) *Pets.* Pets, including dogs and cats, are prohibited from entering reserves unless they are retained on a leash of less than ten feet or are inside a motor vehicle, except as provided for in individual area regulations that allow for hunting or training activities.

(19) *Fires.* No person shall light fireworks or other explosive or incendiary devices, or start or maintain any fire on or in any reserve, except for management purposes as provided in subsection (a)(1).

(20) *Camping.* No person shall camp on/in any ecological reserve.

(21) *Vandalism.* No person shall tamper with, damage or remove any property not his own when such property is located within an ecological reserve.

(b) *Areas and Special Regulations for Use:*

115 Upper Newport Bay Ecological Reserve, Orange County.

(A) Fishing shall be permitted from boats. Fishing is also permitted from shore in designated areas. Clamming or wading is not permitted.

(B) Swimming is permitted only in that area bayward from North Star Beach to mid-channel.

(C) Boating is limited to non-motorized craft, with the exception of law enforcement, emergency, and department vessels and authorized operators under permit from the regional manager.

Boating shall occur in designated areas only and is limited to five miles per hour.

(D) No person shall walk, or ride horseback except on established trails, paths, or other designated areas.

(E) The County of Orange may carry out management activities for fish and wildlife, flood control and vector control. Authorized operation and maintenance activities shall include, but shall not be limited to, use of chemicals, vegetation control, water control and use of associated equipment.

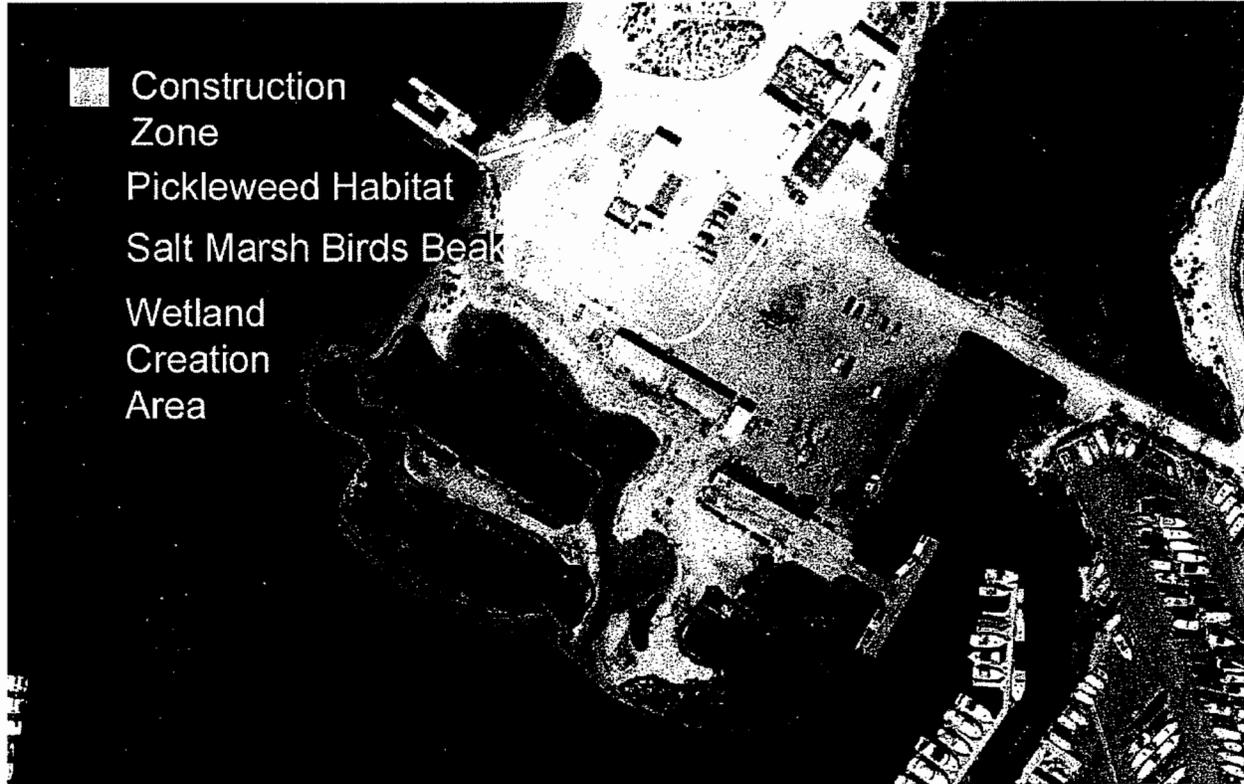
Existing Habitats and Wildlife. The proposed facility improvements on Shellmaker Island would be located on non-tidal, disturbed dredge spoils at elevations between approximately +9 to +17 ft MLLW and include temporary State and County facilities, the UCI Rowing Facility and discarded materials from buildings removed from the site. There are no sensitive species of plants within these areas and the flora consists of invasive and ruderal (i.e., weedy) plants communities and ornamental shrubs and trees.

Salt marsh and mudflats at elevations between -2 and +7 ft MLLW surround the proposed construction site on the east (behind the UCI Rowing Facility), the south (on the Dunes Marina Access Channel), and the west (Main Channel of Upper Newport Bay). Cordgrass (*Spartina foliosa*) and pickleweed (*Salicornia spp.*) are the dominant species occurring within the marsh. These habitats encompass approximately 5.6 acres of wetland habitat.

Endangered Species. Two endangered species are known to occur within these peripheral wetland habitats -- the state and federally listed Salt marsh bird's beak (*Cordylanthus maritimus sub species maritimus*) and the state-listed Belding's savannah sparrow (*Passerculus sandwichensis beldingi*). During focused surveys conducted in 2002 only one pair of potentially breeding Belding's savannah sparrows was observed in the Lower Shellmaker Island salt marsh bordering the Dunes Marina Access Channel. No savannah sparrows were observed during 2003 (Keane Biological Consulting, 2002 and 2003, Brian Shelton, pers. com with K. Keane, Keane Biological Consulting). No light-footed clapper rail (*Rallus longirostris levipes*) were observed within the project area. They are present however, in the salt marsh north east of the project area on Shellmaker Island and along the shoreline of Back Bay Drive.

The distribution of Salt marsh bird's beak nearby the project area in Lower Shellmaker Marsh habitat as of summer 2002 is shown in Exhibit C-IV.2. It also is found extensively north of the proposed BBSC construction site on Lower and Upper Shellmaker Island at higher wetland and transitional elevations. Keane Biological Consulting's Belding savannah sparrow focused survey report is included in Appendix 1.

EXHIBIT C-IV.2
SENSITIVE HABITATS
BACK BAY SCIENCE CENTER



Facility Location and Infrastructure. The proposed project would remove existing temporary structures, grade pads for the facilities, renovate existing educational areas, amphitheatre, and native plant nursery sites, and construct new facilities, a parking lot, and site infrastructure. Trucks, dozers, and graders will be used for this effort. Currently, there are approximately 2.3 acres of disturbed, non-tidal habitat on the site that will be renovated. No direct impacts to natural habitats, sensitive resources, or endangered species would occur within the footprint of the proposed facilities.

The existing access road is a minimum of 20 feet wide, which is adequate for emergency vehicle access. No widening of the road is proposed.

Construction Impacts. Short-term construction impacts include increased noise, dust, and human disturbances on the project site, and to nearby sensitive wetland habitats and resources. These impacts are potentially significant, short-term impacts but will be reduced to less than significant by implementing the following Best Management Practices (BMPs).

Construction activities will avoid salt marsh bird's beak. All precautions will be taken to protect the plants from disturbances and any incidental take of this endangered species, including, but not limited to signage and physical barriers.

An on-site storm and gray water runoff system from the building and parking area to a freshwater pond with filtering plants will be constructed. The locations of the filtration ponds are shown in Exhibit A.-1.1. The locations of the proposed ponds are currently at non-tidal elevations and are not within areas where the endangered salt marsh bird's beak is located. Best Management Practices will be implemented to ensure that secondary construction-related impacts to biological resources of the wetlands are minimized during construction. Therefore, there will be no significant adverse impacts on Shellmaker Island biological resources due to construction of the filtration ponds..

There will be no significant long-term adverse effects of the siting of the facilities and the associated infrastructure on the adjacent sensitive biological habitats and resources. No sensitive bird species have been documented to breed within the project area. Additionally, there is no waterside construction activity proposed, therefore no temporal construction limitations or mitigation measures are required. Shading effects from structures have been addressed in the building designs and there will be no increase in shading of wetland plants or coastal sage scrub habitat that would result in a decrease in plant productivity.

The long-term implementation of the proposed storm water and gray water biofiltration system will have a beneficial impact on Upper Newport Bay wetland resources because it will result in a higher quality of storm water runoff to the waters of Upper Newport Bay compared to current storm water quality.

Marsh Demonstration Project. A salt marsh demonstration project is proposed as part of the science and educational program. The purpose is to provide students with a hands-on educational opportunity to observe and take part in restoring marsh habitat to Upper Newport Bay.

The location of the salt marsh demonstration project is shown in Exhibit A-2.1. Currently, the site is located on dredge spoil material at non-tidal elevations and is colonized by invasive and

ornamental plants, shrubs and trees. The footprint of the proposed marsh demonstration area is approximately 10,000 square feet.

Construction impacts will include (1) removal of non-native shrubs, trees, bushes, and disturbed habitat, and (2) regrading supra-tidal elevations to tidal elevations between 0.0 and +7 ft MLLW. Trucks, dozers, graders, and hand-methods will be used for this effort. Approximately 1/4 of the site will be left alone to be colonized naturally by marsh plants. The other half will be replanted with native marsh plants by students and used as an outdoor science laboratory under supervision of the Department of Fish and Game with a Department of Fish and Game approved design.

Short-term construction impacts include increased noise levels, emissions, dust, and human disturbances to nearby sensitive wetland habitats and resources on the south side of Shellmaker Island. These impacts are potentially significant, short-term impacts but will be reduced to insignificant levels by implementing BMPs. A net gain of wetlands will occur with the marsh demonstration project. The long term benefit of additional, created habitat and the educational experience it will provide will outweigh the short-term construction impacts.

There is also a potential to physically degrade existing salt marsh habitat on the seaward and west side of the proposed marsh demonstration site. Appropriate precautions will be taken to protect salt marsh habitat from disturbances and the incidental take of the salt marsh bird's beak including, but not limited to, signage and physical barriers and routing construction equipment away from sensitive habitats. Damage to salt marsh habitat during construction will also be avoided by having biological monitors on site to assist construction crews in identifying sensitive habitats and avoiding them. Any degradation to existing salt marsh habitat will be restored as part of the project. In addition, the project will provide an excess of 8,000 sq. ft. of created marsh habitat.

The construction of the marsh demonstration area will have a long-term beneficial impact on wetland resources. It will create approximately 10,000 square feet of wetland habitat vegetated by natural and transplanting methods and will result in the removal of invasive and ornamental species of plants, shrubs, and trees.

Trails. The existing trail system will be formalized with marked, designated trails that will link educational activities to the wetlands and restoration activities. There will be several spur trails leading to small observation/teaching areas that will be placed around the perimeter of the wetlands at which students will participate in focused activities. The designated trail areas will not encroach on salt marsh habitat or sensitive species, but will be strategically located for student science activities. Both DFG and the coastal Commission are developing curricula that will be used on site. Trails will lead down to mudflats. The renovation of existing trails and the construction of the teaching pods will not require large construction equipment that could potentially cause short-term or long-term construction impacts on wetlands and terrestrial vegetation in the vicinity of where trails and/or pods will be constructed. Impacts to habitats in the vicinity of existing trails will be minimized by using hand methods or other suitable means of clearing and trail building. The observational areas will not be placed within wetland habitats. This will avoid potential short-term and long-term construction impacts to wetland resources.

Buffers. Buffers will be used to assist in minimizing potential long-term, direct and indirect disturbances to wetland vegetation and wildlife. Historically, there has not been any distinct buffer between the buildings and the wetlands. Despite this, wetland habitat has expanded, as have endangered plant populations. Given the environmental and educational goals of the program, the width of setbacks and buffers to wetlands will vary depending upon type of use. Widest buffers (50 feet) will be set around the perimeters that separate buildings and service/delivery areas from wetland area. Sand dune buffers consisting of elevated, sandy soils will be constructed and then revegetated with dune plants. These berms will be used to buffer highly sensitive salt marsh bird's beak stands from public intrusion along the southern perimeter of the buildings. The berms however, would not impede the views of students or other visitors using the educational trails. The proposed elevation of the undulating dune berm would vary between 3 and 5 feet high and the footprint of the berm would be approximately 15 ft wide. Narrower buffers will be placed around less sensitive areas and will be used as educational trails. Trails and walkways are acceptable uses of buffer habitat under Coastal Commission guidelines. The proposed educational trail is consistent with the purpose for which the Reserve was acquired. Signage will also be used to identify restricted areas to visitors.

The construction of buffer areas will not result in a reduction or loss of wetland or upland habitat on Shellmaker Island. Potential secondary impacts to wetland resources during the construction will be mitigated through the implementation of BMPs. In the long-term, the creation of buffer habitat at the project site will be a beneficial impact to project area's wetland and wildlife resources.

Project Design Features and Standard Conditions*PDF IV-1*

New buildings and infrastructure would be located in order to minimize impacts on sensitive biological resources. The entry road has been designed at the minimum width necessary to provide safe vehicular access to the site while minimizing impacts to habitat.

PDF IV-2

The trail system has been designed so as to avoid encroaching on salt marsh habitat or sensitive species, but will be strategically located for student science activities.

PDF IV-3

Berms and buffer zones up to 50 feet wide have been designed in the site plan to protect sensitive habitat areas and wildlife from human activity areas.

PDF IV-4

Light standards shall be designed so as not to encourage avian predators to perch overlooking the saltmarsh, which is know clapper rail territory (e.g., Nixalite)

Mitigation Measures*MM IV-1*

Trail improvements shall be conducted using the least environmentally damaging methods. A qualified botanist shall be present to ensure that any trail construction activity does not result in the degradation of wetland habitat or vegetation.

MM IV-2

A pre-construction focused survey for Beldings savannah sparrows shall be conducted during the breeding season to determine if breeding activity is occurring. If it is determined that any Belding savannah sparrows are exhibiting breeding behavior within 100 feet of the project site then the biological monitor, in consultation with California Department of Fish and Game and the U.S Fish and Wildlife Service, shall determine if construction activity should be halted until the breeding season (March to September) has been completed.

MM IV-3

A qualified biologist shall be onsite during grading and trenching activities. The biologist will ensure that sensitive biological resources, including rare, threatened, and endangered species, are not adversely affected by the project construction activities. The project biologist will determine whether construction should be halted during the

breeding season to avoid impacts on sensitive species such as the light-footed clapper rail or California gnatcatcher. Vehicular and construction personnel foot traffic shall not impinge on coastal sage scrub, salt marsh, mudflat, or bay environments, either on the project site or on adjacent sensitive habitat areas such as the slope area along the eastern side of Back Bay Drive. "No Entrance" signage and barriers will be erected to prohibit intrusions into sensitive habitats.

MM IV-4

Prior to commencement of construction, a qualified biologist shall conduct a field survey to determine whether clapper rails or California gnatcatchers are nearby. If these sensitive species are present the Department of Fish and Game (DFG) shall determine whether construction should be scheduled to avoid critical nesting periods. DFG shall also review the proposed construction plans with the Project Manager to ensure that construction methods and equipment are chosen so as to reduce noise to the greatest extent practical.

MM IV-5

Construction contract specifications shall require that sensitive salt marsh areas are protected from inadvertent damage during construction. Prior to commencement of construction, a qualified biologist shall flag salt marsh areas to be protected and meet with the Project Manager to ensure that the construction personnel are familiar with these restrictions.

These design features and mitigation measures would reduce potential impacts to a level that is less than significant.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant With Mitigation. See Section IV.a. above. No additional mitigation is necessary.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant With Mitigation. See Section IV.a. above. No additional mitigation is necessary.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. See Section IV.a. above. No additional mitigation is necessary.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. There are no applicable local biological ordinances or policies. No mitigation measures are necessary.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less Than Significant Impact. A Natural Community Conservation Planning/Habitat Conservation Plan (NCCP/HCP) for the Central/Coastal Orange County area was approved by the Orange County Board of Supervisors on April 16, 1996 and by the California Department of Fish and Game and the US Fish and Wildlife Service on July 17, 1996. The project site is included within the NCCP area but is not located within the Reserve Area. Orange County's NCCP Program is now administered by the Nature Reserve of Orange County. Since the site is not within the Reserve Area, the Nature Reserve has no approval authority over the project. The educational aspects of the proposed project will support the goals of the NCCP program.

No mitigation measures are required.

V. CULTURAL RESOURCES

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

No Impact. Neither the site nor any of the current structures are considered to be a historically sensitive resource. No mitigation measures are necessary.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

No Impact. Since Shellmaker Island is comprised of dredge material and bay sands, there is virtually no potential for archaeological resources to be disturbed by the project. No mitigation measures are necessary.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. Since Shellmaker Island is comprised of dredge material and bay sands, there is virtually no potential for paleontological resources to be disturbed by the project. No mitigation measures are necessary.

d) Disturb any human remains, including those interred outside of formal cemeteries?

No Impact. Since Shellmaker Island is comprised of dredge material and bay sands, there is virtually no potential for human remains to be disturbed by the project. No mitigation measures are necessary.

VI. GEOLOGY AND SOILS

The following discussion is based on the Geotechnical Report for the Proposed Shellmaker Island Development, City of Newport Beach, California, June 25, 2002 prepared by Leighton and Associates. A complete copy of the report is available for review at the City of Newport Beach Public Works Department.

Would the project:

- a) **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**
- i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

Less Than Significant Impact With Mitigation. According to the geotechnical report, there are no known major or active earthquake faults mapped at the site, and the site is not located in an Alquist-Priolo zone. The closest active mapped segment of the Newport-Inglewood Fault is located approximately 4.9 km west/northwest of the site.

Like many areas of Southern California, the site would experience groundshaking during a seismic event in the area. The following mitigation measures would reduce this impact to a level that is less than significant.

Mitigation Measures

MM VI-1

A. Prior to issuance of a grading permit, the applicant or successor in interest shall demonstrate to the Department of Fish and Game or its designee that all facilities will be designed and constructed as specified in the Uniform Building Code.

B. Development of the site shall be subject to a grading permit to be approved by the Department of Fish and Game or its designee. The application for grading permit shall be accompanied by a grading plan and specifications and supporting data consisting of solid engineering and engineering geology reports or other reports required by the building official.

C. Prior to the issuance of any building permits a specific soils and foundation study shall be prepared and approved by the Department of Fish and Game or its designee.

ii) Strong seismic ground shaking?

Less Than Significant Impact With Mitigation. See item VI.a.i, above.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact With Mitigation. Liquefaction is a phenomenon in which earthquake-induced cyclic stresses generate excess pore water pressure in low density, saturated, sandy soils and soft silts below the water table. This causes a loss of shear strength and, in many cases, ground settlement. Liquefaction is generally considered to be a problem in earthquake-prone areas where conditions that promote liquefaction are present in the upper 50 feet of earth.

Existing groundwater at the project site was measured at a depth of 5-7 feet below ground surface (bgs). The site is indicated as potentially liquefiable on the Seismic Hazards Zone Maps (Greenwood and Pridmore, 2001). Based on these conditions, the liquefaction potential of the site is considered to be very high. If not mitigated, these conditions could result in major damage to the structure during a strong earthquake. Appropriate design of the building foundations and structural systems as required by Mitigation Measure VI-1 would reduce potential impacts to a level that is less than significant.

iv) Landslides?

Less Than Significant Impact. The project site contains no significant slope areas. The standard requirements identified in Section VI.a, above, will ensure that grading and construction will be done in a manner that reduces this potential impact to a level that is less than significant. No further mitigation is necessary.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact With Mitigation. Soil erosion can occur naturally, and may be accelerated during grading and construction when vegetation cover is removed and bare soil is disturbed. The following mitigation measures would reduce this impact to a level that is less than significant:

Mitigation Measures***MM VI-2***

Prior to issuance of a grading permit an Erosion Control Plan shall be prepared and submitted to the Department of Fish and Game or its designee for approval. The plan shall identify methods to prevent and control potential grading-associated erosion from discharging into Newport Bay. Proposed actions should include erosion control methods to reduce the potential for windblown topsoil or waterborne sediments to reach the Bay including sand bags, wind screens, watering down of dry soils, and implementing other accepted Best Management

Practices (BMPs) during the grading process. Implementation and compliance shall be monitored by the project construction monitor.

- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**

Less Than Significant Impact With Mitigation. The site is considered to have a very high liquefaction potential. The mitigation measures described in Section VI.a, above, will ensure that this project complies with applicable engineering standards and that potential impacts are reduced to a level that is less than significant. No additional mitigation measures are required.

- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**

Less Than Significant Impact. Expansive soils are generally high in clay content. According to the Leighton report, soils in the project area are considered to have a low expansion potential. No mitigation measures are required.

- e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?**

No Impact. The project would not involve the use of septic tanks. All wastewater is proposed to be conveyed off-site via connections to the public sanitary sewer system. No mitigation measures are necessary.

VII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

- a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?**

No Impact. No routine use, transport or disposal of hazardous materials is proposed in connection with the operation of the project. No mitigation measures are necessary.

- b) Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

Less Than Significant Impact. During construction, gasoline- and diesel-powered equipment would be used. In the event of an accident, gasoline or diesel fuel could be spilled. Standard construction contract provisions would require that the contractor follow site maintenance and spill cleanup procedures as described in the *Standard Specifications for Public Works Construction* (the "Greenbook"). No additional mitigation measures are necessary.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The project is not located within 1/4 mile of a school. The nearest schools are Newport Harbor High School (approximately 1 mile west) and Corona del Mar High School (approximately 1 mile north). No mitigation measures are necessary.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less Than Significant Impact With Mitigation. Neither the project site nor any adjacent property is included on the Cortese list of hazardous materials sites. Although no known release of hazardous materials has occurred, the following mitigation measure would ensure that any hazardous substances that may be discovered during demolition or construction are handled in a manner that does not create a significant hazard to the public or the environment.

Mitigation Measures

MM VII-1

Construction specifications shall include a requirement that construction activities shall be halted if any indication of hazardous materials contamination is discovered and a qualified professional shall be retained to conduct an investigation and recommend the appropriate response to protect human health and the environment as well as identify the agency with oversight responsibility. Existing structures to be demolished or remodeled shall be investigated for the presence of lead-based paint and asbestos-containing materials (ACMs). If the presence of lead-based paints or ACMs is suspected, proper precautions shall be taken during demolition activities. Additionally, any contaminants shall be remediated in compliance with California environmental regulations.

If project construction requires soil excavation and removal, appropriate sampling shall be required prior to disposal of the excavated soil. If the soil is contaminated, it shall be properly disposed of. Land Disposal Restrictions (LDRs) may be applicable to these soils. Also, if the project requires soil import to backfill excavated areas, proper sampling shall be required to ensure that the imported soil is free of contamination.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The project site is not located within 2 miles of an airport. The nearest airport (John Wayne) is approximately 3 miles north of the site. The project site is near the flight corridor of John Wayne Airport but is not within any hazard zone. No mitigation measures are necessary.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. There are no private airstrips within the project vicinity. No mitigation measures are necessary.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact With Mitigation. The proposed project would have no effect on any emergency response or emergency evacuation plan or procedures. Emergency evacuation routes could be affected during construction, however, due to temporary street or lane closures. The following mitigation measure would reduce this impact to a level that is less than significant.

Mitigation Measures

MM VII-2

Prior to award of a construction contract or issuance of a grading permit, a traffic control plan meeting the approval of the Department of Fish and Game or its designee shall be prepared. The plan shall specify what measures shall be taken to minimize travel disruptions and safety hazards, including safety of pedestrians and bicyclists, minimize inconveniences to residents and businesses, minimize the loss of parking, and ensure adequate emergency access at all times. The plan shall include haul routes and restrictions for soil export, if required. The traffic control plan shall be incorporated into the contract specifications and shall be enforced by the construction inspector

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. The project site is surrounded by urban development, and no wildland interface exists. No mitigation measures are necessary.

VIII. HYDROLOGY AND WATER QUALITY

As part of the educational interpretive program, a wetland demonstration project will be designed and implemented for Shellmaker Island. This demonstration project will serve as a teaching and research tool to: (1) introduce students to wetland biology and ecological principals, (2) provide an opportunity for students and researchers to conduct research on the short-term and long-term restoration potential of Newport Bay wetlands, and (3) increase the public's awareness of the value of Southern California wetlands.

In addition, the wetland demonstration project will integrate state-of-the-art water quality best management practices for the management of onsite stormwater and dry weather runoff from impervious areas of the building site.

As a method to improve the quality of stormwater and dry weather runoff from the grounds of the Back Bay Science Center, drainage from impervious areas on the grounds, facilities, and parking lot will be filtered through a series of biofilters and sediment basins and discharged around the perimeters of Lower Shellmaker Island. The purposes of this feature are to (1) improve site water quality runoff at the Back Bay Center site, (2) integrate the design of the demonstration marsh with water quality enhancement features, and (3) aid in the teaching of water quality management principals with real-world wetland enhancement programs.

Features included in the design include:

- Catch basins and bioretention planting strips that will filter site runoff from facilities, parking lots and roadways. Catch basins will remove some of the sediments and oil/grease constituents prior to entering bioretention strips. The bioretention planting strips filters will enhance the removal of macronutrients such as phosphorous and can also in reducing irrigation requirements.
- Stormwater detention basin(s) or “water quality enhancement ponds” that can be used around the perimeter of the natural marsh and the demonstration salt marsh, where appropriate, to (1) serve as a method to provide additional filtering of site runoff and (2) provide additional wetland demonstration activities in the use of retaining ponds as seasonal freshwater wetlands. The site runoff, once filtered, can also be used to provide fresh-water required for salt marsh plant seed germination.

Would the project:

a) Violate any water quality standards or waste discharge requirements?

Less Than Significant Impact With Mitigation. The project site is located within Upper Newport Bay Ecological Reserve and is adjacent to sensitive areas. Contaminants such as oil and grease, fertilizers, pesticides, and animal waste typically accumulate on ground surfaces and are then washed into storm drains and waterways by irrigation or rainfall. Construction activities could also temporarily increase the amount of soil erosion and siltation in the bay. In order to reduce the level of contaminants leaving the property, the project has been designed to include a stormwater detention basin and water filtration system. The purpose of this detention basin is to hold the initial flush of stormwater, which typically contains the highest level of contaminants, so that these pollutants can be trapped and filtered as the water percolates into the ground. This project design feature will substantially reduce the amount of contaminants leaving the site. In addition, preparation and implementation of an erosion control plan will be required to minimize runoff of contaminants into the bay during construction.

Long-term effects on water quality are anticipated to be beneficial with the operation of the proposed storm water and gray water filtration system. Currently, there is no filtration or treatment of runoff from the site. The proposed system will discharge low volumes of less toxic waters to Newport Bay compared to existing conditions on Shellmaker Island.

Project Design Features and Standard Conditions*PDF VIII-1*

The site plan has been designed to include a stormwater retention basin and filtration system to minimize the release of pollutants into Upper Newport Bay. Prior to the issuance of grading permits, the Department of Fish and Game or its designee shall verify that the proposed stormwater retention basin and filtration system have been incorporated into the project plans.

Mitigation Measures*MM VIII-1*

Prior to issuance of any grading permit, an erosion, siltation and dust control plan shall be submitted and be subject to the approval of the Department of Fish and Game or its designee.

MM VIII-2

Prior to issuance of a grading or building permit, a Storm Water Management Plan shall be prepared in coordination with the Erosion Control Plan to identify methods to reduce construction period storm water runoff to Upper Newport Bay. The project construction monitor will ensure that the BMPs contained within the SWMP are fully implemented and complied with. Accumulated debris shall be removed following major storm events.

MM VIII-3

Construction debris and trash shall not be discharged to Newport Bay. Plans and specifications shall include requirements for all construction debris to be removed from the site and disposed of at an approved landfill.

These mitigation measures would reduce potential impacts to a level that is less than significant.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

No Impact. The project would have no effect on groundwater supplies or recharge. Runoff from the project area currently flows into Upper Newport Bay or Newport Harbor via storm drains or surface drainage. No mitigation measures are necessary.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less Than Significant Impact. See Section VIII.a. No stream courses are located on the site. No additional mitigation measures are necessary.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?

Less Than Significant Impact. No increase in runoff would be expected from the project site. Surface runoff would be expected to decrease due to the incorporation of a stormwater retention basin and filtration system. As discussed in Section VIII.a, above, the detention basin incorporated in the project design would substantially reduce the amount of runoff leaving the site. No additional mitigation measures are necessary.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact With Mitigation. See Sections VIII.a and VIII.d, above. No additional mitigation measures are necessary.

f) Otherwise substantially degrade water quality?

Less Than Significant Impact With Mitigation. See Sections VIII.a and VIII.d, above. There are no other known impacts to water quality. No additional mitigation measures are necessary.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary of Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The site is not within a 100-year flood hazard area and no housing is proposed as part of the project. No mitigation measures are necessary.

h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?

No Impact. The site is not within a 100-year flood hazard area. No mitigation measures are necessary.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The project is not located in a flood hazard area, is not near a levee or dam and would not expose additional people or structures to flood hazards. No mitigation measures are necessary.

j) Inundation by seiche, tsunami, or mudflow?

No Impact. The site is not located in an area that is subject to seiche or tsunami. (CIOSA EIR p. 293). No mitigation measures are necessary.

IX. LAND USE AND PLANNING

Would the project:

a) Physically divide an established community?

No Impact. The site is currently used for the same general purpose as the proposed project. The project would have no effect on the established community. No mitigation measures are necessary.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant Impact. The proposed project is consistent with the existing General Plan land use designation, zoning, and Local Coastal Program Land Use Plan. The General Plan and LCP/Land Use Plan designate the Shellmaker Island site for Recreational and Environmental Open Space. The proposed facilities are consistent with this designation.

Section 30600(a) of the Coastal Act requires that, in addition to obtaining any other permit required by law from any local government or from any state, regional, or local agency, any person, as defined in Section 21066, wishing to perform or undertake any development in the coastal zone shall obtain a coastal development permit (CDP). The proposed project is located within the City of Newport Beach, which presently has a certified Land Use Plan, but does not have a certified Local Coastal Program (LCP). In the absence of a certified LCP, the Coastal Commission will process the coastal development permit application for the project. The Commission's standard of review for the CDP is compliance with Chapter 3 policies of the Coastal Act.

The Coastal Act limits the dredging or filling of wetlands to the specific uses listed in Section 30233 of the Coastal Act. In addition, development adjacent to wetland habitat areas shall not adversely impact the wetlands. Adequate buffers must be provided between development areas and the wetlands to ensure protection of those sensitive areas. A buffer zone 100 feet wide is typically considered adequate for this purpose, but narrower buffers may be adequate if properly designed and managed.

The proposed project would not involve the filling or dredging of any wetlands and is consistent with Chapter 3 of the Coastal Act. Degraded wetlands will be restored as part of the project. A buffer zone between the facilities and sensitive habitat areas is provided in the design of the project, as described on Page 56. The Department of Fish and Game has reviewed the plan and has determined that the proposed buffer zones are adequate to protect these resources.

The project is required to obtain a Coastal Development Permit, which will ensure compliance with the Coastal Act.

No mitigation measures are necessary.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Less Than Significant Impact. The site is located within the Central/Coastal Orange County NCCP area. The project's proposed habitat restoration component (see Section IV.f) is consistent with NCCP policies. No mitigation measures are necessary.

X. MINERAL RESOURCES

Would the project:

a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

No Impact. There are no known mineral resources on the site. No mitigation measures are necessary.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. There are no locally important mineral resource recovery areas located in the project area. No mitigation measures are necessary.

XI. NOISE

Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact. There are two potential sources of noise: 1) noise generated during construction, and 2) noise generated from the ongoing operation of the facility. Since the proposed project would replace existing facilities and no substantial change in operational characteristics would occur, there should be no substantial increase in traffic that would contribute to a significant long-term noise increase on roadways in the vicinity. There are also no proposed on-site activities that would generate loud noises. A short-term noise increase during construction would occur, however, from the use and transport of heavy equipment. The following standard condition would reduce construction noise to a level that is less than significant:

Standard Conditions

SC XI-1

Pursuant to the City of Newport Beach Noise Ordinance Section 10.28.040, construction adjacent to existing residential development shall be limited to the hours of 7:00 a.m. to

6:30 p.m. Monday through Friday and 8:00 a.m. through 6:00 p.m. on Saturday. Construction shall not be allowed outside of these hours Monday through Saturday and at any time on Sundays and federal holidays.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. A short-term increase in groundborne vibration and noise would be expected to occur during excavation and construction. Limitations on allowable hours of construction found in Standard Condition XI-1 would reduce this impact to a level that is less than significant.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. The project would not result in significant long-term noise impacts. No mitigation is necessary.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. See Section XI.a, above.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Less Than Significant Impact. The site is located near the flight path from John Wayne Airport; therefore construction workers, employees and visitors would be subject to minor noise impacts due to aircraft overflight. These impacts are not considered significant, however, since the site is approximately 3.3 miles from John Wayne airport and is outside the 65 dB CNEL noise contour. No mitigation measures are necessary.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. There are no private airstrips within the vicinity of the site. No mitigation measures are necessary.

XII. POPULATION AND HOUSING

Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. Since the operation of the proposed project would be substantially similar to the existing facility, no increase in population would be induced. No mitigation measures are necessary.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. There is no existing housing that would be displaced by the proposed development. No mitigation measures are necessary.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. No people or existing housing would be displaced by the proposed development. No mitigation measures are necessary.

XIII. PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of these public services:

a) Fire protection?

Less Than Significant Impact. The proposed project would not cause a substantial increase in demand for fire protection and paramedic service since the project would replace existing facilities. No mitigation measures are necessary.

b) Police protection?

Less Than Significant Impact With Mitigation. The proposed project would not cause a substantial increase in demand for police protection since the project would replace existing facilities. Traffic control during construction will be provided by the contractor in a manner meeting the approval of the City Traffic Engineer (see Mitigation Measure VII-1). No additional mitigation measures are necessary.

c) Schools?

No Impact. The proposed project would have no effect on student generation or school operations since it is not a residential use. No mitigation measures are necessary.

d) Parks?

No Impact. The proposed project would provide recreational opportunities for bird watching and other educational activities. It would have no effect on the demand or usage of parks or recreation facilities. No mitigation measures are necessary.

e) Other public facilities?

No Impact. The proposed project would have no effect on any other public facilities. No mitigation measures are necessary.

XIV. RECREATION**a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated?**

Less Than Significant Impact. Back Bay Drive, which is adjacent to Shellmaker Island, is a popular recreational trail. Publicity associated with the new facilities could potentially make more people aware of this trail, and result in a minor increase in its use. This increase would not be expected to be significant, however. No mitigation measures are necessary.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No Impact. The project includes tidepools and trails, which are recreational amenities. There are no additional impacts associated with those facilities that are not addressed in this Initial Study.

XV. TRANSPORTATION/TRAFFIC

Would the project:

a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

Less Than Significant Impact With Mitigation. Since the project would replace existing facilities with substantially the same operational characteristics, no significant increase in traffic would result. No mitigation is required for long-term traffic impacts.

Short-term impacts would occur due to construction traffic. Mitigation Measure VII-1 would require that a traffic control plan be prepared to specify measures to minimize travel disruptions and safety hazards. This mitigation measure would reduce potential short-term construction traffic impacts to a level that is less than significant.

b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

Less Than Significant Impact. Please see Section XV.a. Since the project would replace existing facilities, it would not generate a substantial increase in traffic and would not exceed any level of service standard. No mitigation is necessary.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The project would have no effect on air traffic patterns. No mitigation measures are necessary.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact With Mitigation. The project would replace existing facilities and would not create traffic hazards due to design features. No mitigation is necessary.

e) Result in inadequate emergency access?

Less Than Significant Impact. See Section XV.d, above.

f) Result in inadequate parking capacity?

Less Than Significant Impact With Mitigation. Parking demand estimates for the new facilities are shown in Table XV-1. The table shows that peak parking demand of 54 cars occurs between 5 and 8 am. The on-site parking area provides spaces for 66 cars and one bus, therefore adequate parking will be provided. No mitigation is necessary.

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
5-8 am	54	54	54	54	54	54	54
8 am-noon	28	48	50	48	50	40	40
Noon-4pm	34	51	53	53	53	41	41
4-6 pm	25	41	41	41	41	38	32
6-9 pm	4	4	4	4	16	4	4
9pm-5 am	0	0	0	0	16	0	0

Source: City of Newport Beach

Temporary demand for additional parking would be created by workers during construction. Mitigation Measure VII-1 would reduce this impact to a level that is less than significant.

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

Less Than Significant Impact With Mitigation. The proposed project would include a bicycle rack, which would support alternative transportation goals. Potential disruption of bus

travel and bicycle lanes could occur during construction, however. Mitigation Measure VII-1 would reduce this impact to a level that is less than significant.

XVI. UTILITIES AND SERVICE SYSTEMS

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Less Than Significant Impact. Since the project would replace an existing facility with substantially the same operational characteristics, it would not generate a substantial increase in wastewater flows or unusual treatment requirements. No mitigation measures are necessary.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. See Section XVI.a. No mitigation measures are necessary.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. The project design includes a stormwater retention basin and filtration system. This would reduce the potential impact to a level that is less than significant. No additional mitigation measures are necessary.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less Than Significant Impact. The project would replace existing facilities with substantially the same operational characteristics, and would not result in a significant increase in demand for water. No mitigation measures are necessary.

e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less Than Significant Impact. See Section XVI.b, above. No mitigation measures are necessary.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less Than Significant Impact. The project would replace existing facilities with substantially the same operational characteristics, and would not result in a significant increase in solid waste generation. No mitigation measures are necessary.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Less Than Significant Impact. The project could generate solid waste during construction. Standard contract specifications requiring the contractor to remove and dispose of waste in accordance with applicable statutes and regulations would reduce this impact to a level that is less than significant. No mitigation measures are necessary.

MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant With Mitigation Incorporated. The project has the potential to degrade the quality of the environment, but project design features, standard conditions, and mitigation measures would reduce these potential impacts to a level that is less than significant.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less Than Significant With Mitigation Incorporated. The project would contribute to short-term cumulative impacts in the areas of air quality, noise and traffic during the construction period. The project's contribution to these cumulative impacts would be substantially reduced by the standard conditions and mitigation measures, however, and the incremental impacts of the project would be so small that they would make only a *de minimis* contribution to the cumulative impacts caused by other projects.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant With Mitigation Incorporated. The project design features, standard conditions, and mitigation measures would substantially reduce the potential impacts of the project to a level that is less than significant.

D. REFERENCES

Building News Publications, Standard Specifications for Public Works Construction, 1997 (the "Greenbook")

California Coastal Act, (Public Resources Code Division 20, Section 30000 et seq.)

California Code of Regulations, Title 14 Natural Resources

California Fish and Game Code

City of Newport Beach, Circulation Improvement and Open Space Agreement Final EIR, 1992

City of Newport Beach, Newport Beach General Plan.

City of Newport Beach, Newport Beach Municipal Code.

Coastal Resources Management, Shellmaker Island Estuarine Studies Center Biological Impact Assessment, June 2003

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	Dave Kiff	Assistant City Manager
County of Orange	Mike Hansen	Facilities Operations Mgr, Health Care Agency

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Coastal Resources Management	Rick Ware	Wetlands Consultant
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Ron Yeo, FAIA, Architect, Inc.	Ron Yeo, FAIA	Project Architect
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APPENDICES

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APPENDIX 1

RESULTS OF 2002 AND 2003 FOCUSED SURVEYS AT SHELLMAKER ISLAND FOR BELDING'S SAVANNAH SPARROW

Prepared By:
Kathy Keane, Keane Biological Consultants

For:
Rick Ware, Coastal Resources Management

Introduction and Purpose

Keane Biological Consulting (KBC) conducted focused surveys on Shellmaker Island, Upper Newport Bay during 2002 and 2003. The purpose of the surveys was to determine the status and distribution of this State of California endangered species within salt marsh habitat that is in the vicinity of the proposed Estuarine Studies Center. This report summarizes the results of surveys conducted in Spring 2002 and 2003 and also reports on the presence of other bird species observed during the surveys.

Distribution and Regional Status

The savannah sparrow (*Passerculus sandwichensis*) is a widespread and abundant species of North American open habitats south to northern El Salvador and Honduras. Seventeen subspecies are recognized, most of which are migratory. Several species, however, are residents of coastal salt marshes of the southwestern United States and Mexico, including the large-billed savannah sparrow (*Passerculus sandwichensis rostratus*), which occurs along the east and west shores of the Gulf of California, and the Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), which is found from Morro Bay south to El Rosario, Baja California (Wheelwright and Rising 1993).

Legal Status

The Belding's savannah sparrow was listed by the California Department of Fish and Game (CDFG) as endangered in January 1974. It is not currently listed as endangered or threatened by the United States Fish and Wildlife Service (USFWS).

General Biology

Ecology

Belding's savannah sparrows occupy coastal salt marshes and coastal estuaries where pickleweed, sea-blite (*Suaeda* sp.), salt bush (*Atriplex* sp.), and salt grass are dominant plant species. Although other subspecies subsist on a diet of insects during the summer and seeds during the winter, Belding's savannah sparrows eat a variety of crustaceans as well as seeds of pickleweed. They may forage in other nearby habitats including along rock jetties (Garrett and

Dunn 1981) and are capable of drinking salt water. Nests are built low in pickleweed in middle to upper portions of salt marshes, or in non-tidal seepage areas dominated by pickleweed (Massey 1977). Predators include several raptor species, clapper rail (*Rallus longirostris levipes*), red fox (*Vulpes vulpes*), striped skunk (*Mephites mephites*), raccoon (*Procyon lotor*), and domestic cat (Wheelwright and Rising 1993).

Conservation

Savannah sparrows of other subspecies have likely benefited from human activity because of their preference for breeding in open habitats such as agricultural fields and grazing lands (Wheelwright and Rising 1993). However, the Belding's savannah sparrow population has declined over the past century due to destruction of suitable salt marsh habitat by filling for housing, industrial use and marina development (Garrett and Dunn 1981).

Attempts to estimate the population of Belding's savannah sparrow during the last 20 years have been proven difficult because of the large foraging range maintained by each pair as well as the reclusive nature of the bird. A census of the state's population in 1986 counted 2,274 pairs (R. Jurek, pers. comm.). Point Mugu Naval Air Station in Ventura County supported the largest population, with 446 pairs (Zemba et al. 1988). Upper Newport Bay and Bolsa Chica in Orange County also supported high-quality habitat and relatively stable populations (Zemba et al. 1988). A statewide survey in 1991 estimated 1,844 pairs north of Mexico, although this included only a partial count for Point Mugu. Another statewide census was conducted in 1996 and estimated 2,350 breeding pairs (R. Zemba, pers. comm.), indicating the population may be somewhat increasing, though surveys since that time indicate a general decline. Current threats to the population are continued degradation of coastal saltmarsh habitats due to freshwater diversion, siltation and water pollution, and further habitat losses to residential development (Zemba et al. 1988).

Survey Methods

Saltmarsh habitat dominated by pickleweed (*Salicornia virginica*) noted to be suitable for Belding's savannah sparrow was identified on Shellmaker Island all along the western shore, extending from the UCI crew boat facility to the northwestern corner of the island. These areas were surveyed for the presence of savannah sparrows on April 25, 2002 and May 13, 2002. Surveys on April 25 were conducted from 0740 to 0920; surveys on May 13 were conducted from 0712 to 0830. During 2003, the surveys were conducted on April 16 and April 23, 2003 between the hours of 0714 to 0945.

No standard protocol exist for survey methods; however, Dick Zemba, an expert on this subspecies, recommends that surveys be conducted during early morning hours of the breeding season and that surveys not be conducted during inclement weather. In addition, personal observations indicate that detection of Belding's savannah sparrows is higher during sunny rather than overcast weather.

Surveys detected and recorded the location and number of birds and behaviors such as vocalizations (call notes and songs), courting and nesting activities, perching, chasing, and fleeing. The presence of potential predators was also noted. From these breeding and territorial behaviors, the number and approximate locations of individuals, paired birds, and territories

were estimated. Individuals were determined to be a member of a pair based on behavior (if they were observed in close proximity or were otherwise interacting as a pair, not demonstrating territorial defensive behavior to one another). Each pair as well as individual birds displaying territorial behavior (chasing other individuals, perched vocalizing and warning [full song and/or warning "chip" notes], or carrying food or nesting material, or present with fledglings) were considered to be an active territory.

Survey Results

2002 Surveys. One pair of Belding's savannah sparrows was observed during both April and May surveys. The pair was feeding, and the male was singing, throughout the patch of pickleweed in the northwestern corner of the "island." No nest-building behavior was noted, and no nest was located, but observed behavior suggested the pair was both feeding and nesting in the area. No Belding's savannah sparrows were seen or heard in the pickleweed habitat located near the UCI crew boat facility on the southwestern corner of the "island" during either survey. Several other species of birds were detected on and in the vicinity of the "island" during the survey, including the endangered California least tern (*Sterna antillarum browni*) foraging in nearby shallow waters.

2003 Surveys. No Belding's savannah sparrows were observed during the surveys. Brian Shelton, manager of the Upper Newport Bay Ecological Reserve for the California Department of Fish and Game, states that he has not seen or heard Belding's savannah sparrows at the site this year. No Belding's savannah sparrows were seen or heard in the pickleweed habitat located near the UCI crew boat facility on the southwestern corner of the "island" during either survey. Several other species of birds were detected on and in the vicinity of the "island" during the survey (Table 1 and 2).

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Table 1.
Birds Observed During April 16 and 23 Surveys

American goldfinch
Anna's hummingbird
Barn swallow
Common yellowthroat
European starling
great blue heron
House finch
Least sandpiper
Mallard
Marsh wren
mourning dove
northern harrier (preying on shorebirds)
northern rough-winged swallow
Snowy egret
song sparrow
western sandpiper
Willet

Table 2.
Birds Observed During April 16 and 23 Surveys Near Shellmaker Island

California gnatcatcher (east, on the slope of Bay Back)
Belding's savannah sparrow (north of the access road)
Caspian tern, elegant tern, Forster's tern (foraging in nearby waters)
California least tern (foraging in nearby waters)
American crow (flying overhead)
white-throated swift (flying overhead)
black-crowned night heron (flying overhead)

APPENDIX 2

Biological Resources Inventory

Property Name	Property #
UPPER NEWPORT BAY ER	00361
Bird List - Common and Scientific Names	
ALLEN'S HUMMINGBIRD	Selasphorus sasin
AMERICAN AVOCET	Recurvirostra americana
AMERICAN BITTERN	Botaurus lentiginosus
AMERICAN COOT	Fulica americana
AMERICAN CROW	Corvus brachyrhynchos
AMERICAN FLAMINGO	Phoenicopterus ruber
AMERICAN GOLDEN-PLOVER	Pluvialis dominica
AMERICAN GOLDFINCH	Carduelis tristis
AMERICAN KESTREL	Falco sparverius
AMERICAN PIPIT	Anthus rubescens
AMERICAN REDSTART	Setophaga ruticilla
AMERICAN ROBIN	Turdus migratorius
AMERICAN WHITE PELICAN	Pelecanus erythrorhynchos
AMERICAN WIGEON	Anas americana
ANNA'S HUMMINGBIRD	Calypte anna
ARCTIC LOON	Gavia arctica
ARCTIC TERN	Sterna paradisaea
ASH-THROATED FLYCATCHER	Myiarchus cinerascens
BAIRD'S SANDPIPER	Calidris bairdii
BALD EAGLE	Haliaeetus leucocephalus
BANK SWALLOW	Riparia riparia
BARN OWL	Tyto alba
BARN SWALLOW	Hirundo rustica
BELTED KINGFISHER	Ceryle alcyon
BEWICK'S WREN	Thryomanes bewickii

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Property Name	Property #
UPPER NEWPORT BAY ER	00361
BLACK PHOEBE	Sayornis nigricans
BLACK RAIL	Laterallus jamaicensis
BLACK SCOTER	Melanitta nigra
BLACK SKIMMER	Rynchops niger
BLACK TERN	Chlidonias niger
BLACK TURNSTONE	Arenaria melanocephala
BLACK-BELLIED PLOVER	Pluvialis squatarola
BLACK-CHINNED HUMMINGBIRD	Archilochus alexandri
BLACK-CROWNED NIGHT HERON	Nycticorax nycticorax
BLACK-HEADED GROSBEAK	Pheucticus melanocephalus
BLACK-LEGGED KITTIWAKE	Rissa tridactyla
BLACK-NECKED STILT	Himantopus mexicanus
BLACK-TAILED GNATCATCHER	Polioptila melanura
BLACK-THROATED GRAY WARBLER	Dendroica nigrescens
BLUE-GRAY GNATCATCHER	Polioptila caerulea
BLUE-WINGED TEAL	Anas discors
BONAPARTE'S GULL	Larus philadelphia
BRANDT'S CORMORANT	Phalacrocorax penicillatus
BRANT	Branta bernicla
BREWER'S BLACKBIRD	Euphagus cyanocephalus
BROWN PELICAN	Pelecanus occidentalis
BROWN-HEADED COWBIRD	Molothrus ater
BUFFLEHEAD	Bucephala albeola
BULLOCK'S ORIOLE	Icterus bullockii
BURROWING OWL	Athene cunicularia
BUSHTIT	Psaltriparus minimus
CACTUS WREN	Campylorhynchus brunneicapillus

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Property Name	Property #
UPPER NEWPORT BAY ER	00361
CALIFORNIA GULL	<i>Larus californicus</i>
CALIFORNIA QUAIL	<i>Callipepla californica</i>
CALIFORNIA THRASHER	<i>Toxostoma redivivum</i>
CALIFORNIA TOWHEE	<i>Pipilo crissalis</i>
CANADA GOOSE	<i>Branta canadensis</i>
CANVASBACK	<i>Aythya valisineria</i>
CASPIAN TERN	<i>Sterna caspia</i>
CASSIN'S KINGBIRD	<i>Tyrannus vociferans</i>
CATTLE EGRET	<i>Bubulcus ibis</i>
CEDAR WAXWING	<i>Bombycilla cedrorum</i>
CHIPPING SPARROW	<i>Spizella passerina</i>
CINNAMON TEAL	<i>Anas cyanoptera</i>
CLAPPER RAIL	<i>Rallus longirostris</i>
CLARK'S GREBE	<i>Aechmophorus clarkii</i>
CLAY-COLORED SPARROW	<i>Spizella pallida</i>
CLIFF SWALLOW	<i>Petrochelidon pyrrhonota</i>
COMMON GOLDENEYE	<i>Bucephala clangula</i>
COMMON LOON	<i>Gavia immer</i>
COMMON MERGANSER	<i>Mergus merganser</i>
COMMON MOORHEN	<i>Gallinula chloropus</i>
COMMON RAVEN	<i>Corvus corax</i>
COMMON SNIPE	<i>Gallinago gallinago</i>
COMMON TERN	<i>Sterna hirundo</i>
COMMON YELLOWTHROAT	<i>Geothlypis trichas</i>
COOPER'S HAWK	<i>Accipiter cooperii</i>
COSTA'S HUMMINGBIRD	<i>Calypte costae</i>
DARK-EYED JUNCO	<i>Junco hyemalis</i>

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Property Name	Property #
UPPER NEWPORT BAY ER	00361
DOUBLE-CRESTED CORMORANT	Phalacrocorax auritus
DOWNY WOODPECKER	Picoides pubescens
EARED GREBE	Podiceps nigricollis
ELEGANT TERN	Sterna elegans
EURASIAN WIGEON	Anas penelope
EUROPEAN STARLING	Sturnus vulgaris
FORSTER'S TERN	Sterna forsteri
FOX SPARROW	Passerella iliaca
FRANKLIN'S GULL	Larus pipixcan
GADWALL	Anas strepera
GLAUCOUS GULL	Larus hyperboreus
GLAUCOUS-WINGED GULL	Larus glaucescens
GOLDEN EAGLE	Aquila chrysaetos
GOLDEN-CROWNED SPARROW	Zonotrichia atricapilla
GREAT BLUE HERON	Ardea herodias
GREAT EGRET	Ardea alba
GREAT HORNED OWL	Bubo virginianus
GREATER ROADRUNNER	Geococcyx californianus
GREATER SCAUP	Aythya marila
GREATER WHITE-FRONTED GOOSE	Anser albifrons
GREATER YELLOWLEGS	Tringa melanoleuca
GREAT-TAILED GRACKLE	Quiscalus mexicanus
GREEN HERON	Butorides virescens
GREEN-TAILED TOWHEE	Pipilo chlorurus
GREEN-WINGED TEAL	Anas crecca
HAMMOND'S FLYCATCHER	Empidonax hammondii
HEERMANN'S GULL	Larus heermanni

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Property Name	Property #
UPPER NEWPORT BAY ER	00361
HERMIT THRUSH	<i>Catharus guttatus</i>
HERMIT WARBLER	<i>Dendroica occidentalis</i>
HERRING GULL	<i>Larus argentatus</i>
HOODED MERGANSER	<i>Lophodytes cucullatus</i>
HORNED GREBE	<i>Podiceps auritus</i>
HORNED LARK	<i>Eremophila alpestris</i>
HOUSE FINCH	<i>Carpodacus mexicanus</i>
HOUSE SPARROW	<i>Passer domesticus</i>
HOUSE WREN	<i>Troglodytes aedon</i>
KILLDEER	<i>Charadrius vociferus</i>
LARK SPARROW	<i>Chondestes grammacus</i>
LAUGHING GULL	<i>Larus atricilla</i>
LAWRENCE'S GOLDFINCH	<i>Carduelis lawrencei</i>
LEAST BITTERN	<i>Ixobrychus exilis</i>
LEAST SANDPIPER	<i>Calidris minutilla</i>
LEAST TERN	<i>Sterna antillarum</i>
LESSER GOLDFINCH	<i>Carduelis psaltria</i>
LESSER NIGHTHAWK	<i>Chordeiles acutipennis</i>
LESSER SCAUP	<i>Aythya affinis</i>
LESSER YELLOWLEGS	<i>Tringa flavipes</i>
LIGHT-FOOTED CLAPPER RAIL	<i>Rallus longirostris levipes</i>
LINCOLN'S SPARROW	<i>Melospiza lincolni</i>
LOGGERHEAD SHRIKE	<i>Lanius ludovicianus</i>
LONG-BILLED CURLEW	<i>Numenius americanus</i>
LONG-BILLED DOWITCHER	<i>Limnodromus scolopaceus</i>
MACGILLIVRAY'S WARBLER	<i>Oporornis tolmiei</i>
MALLARD	<i>Anas platyrhynchos</i>

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Property Name	Property #
UPPER NEWPORT BAY ER	00361
MARBLED GODWIT	<i>Limosa fedoa</i>
MARSH WREN	<i>Cistothorus palustris</i>
MERLIN	<i>Falco columbarius</i>
MEW GULL	<i>Larus canus</i>
MOUNTAIN PLOVER	<i>Charadrius montanus</i>
MOURNING DOVE	<i>Zenaida macroura</i>
NASHVILLE WARBLER	<i>Vermivora ruficapilla</i>
NELSON'S SHARP-TAILED SPARROW	<i>Ammodramus nelsoni</i>
NORTHERN FLICKER	<i>Colaptes auratus</i>
NORTHERN HARRIER	<i>Circus cyaneus</i>
NORTHERN MOCKINGBIRD	<i>Mimus polyglottos</i>
NORTHERN PINTAIL	<i>Anas acuta</i>
NORTHERN ROUGH-WINGED SWALLOW	<i>Stelgidopteryx serripennis</i>
NORTHERN SHOVELER	<i>Anas clypeata</i>
NUTTALL'S WOODPECKER	<i>Picoides nuttallii</i>
OLIVE-SIDED FLYCATCHER	<i>Contopus cooperi</i>
ORANGE-CROWNED WARBLER	<i>Vermivora celata</i>
OSPREY	<i>Pandion haliaetus</i>
PACIFIC LOON	<i>Gavia pacifica</i>
PACIFIC-SLOPE FLYCATCHER	<i>Empidonax difficilis</i>
PALM WARBLER	<i>Dendroica palmarum</i>
PARASITIC JAEGER	<i>Stercorarius parasiticus</i>
PECTORAL SANDPIPER	<i>Calidris melanotos</i>
PEREGRINE FALCON	<i>Falco peregrinus</i>
PIED-BILLED GREBE	<i>Podilymbus podiceps</i>
PINE SISKIN	<i>Carduelis pinus</i>
PLUMBEOUS VIREO	<i>Vireo plumbeus</i>

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Property Name	Property #
UPPER NEWPORT BAY ER	00361
PRAIRIE FALCON	Falco mexicanus
PURPLE FINCH	Carpodacus purpureus
PURPLE MARTIN	Progne subis
RED KNOT	Calidris canutus
RED PHALAROPE	Phalaropus fulicaria
RED-BREASTED MERGANSER	Mergus serrator
RED-BREASTED SAPSUCKER	Sphyrapicus ruber
REDDISH EGRET	Egretta rufescens
REDHEAD	Aythya americana
RED-NECKED GREBE	Podiceps grisegena
RED-NECKED PHALAROPE	Phalaropus lobatus
RED-SHOULDERED HAWK	Buteo lineatus
RED-TAILED HAWK	Buteo jamaicensis
RED-THROATED LOON	Gavia stellata
RED-WINGED BLACKBIRD	Agelaius phoeniceus
RING-BILLED GULL	Larus delawarensis
RING-NECKED DUCK	Aythya collaris
RING-NECKED PHEASANT	Phasianus colchicus
ROCK DOVE	Columba livia
ROCK WREN	Salpinctes obsoletus
ROSS' GOOSE	Chen rossii
ROUGH-LEGGED HAWK	Buteo lagopus
ROYAL TERN	Sterna maxima
RUDDY DUCK	Oxyura jamaicensis
RUDDY TURNSTONE	Arenaria interpres
RUFIOUS HUMMINGBIRD	Selasphorus rufus
SANDERLING	Calidris alba

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Property Name	Property #
UPPER NEWPORT BAY ER	00361
SAVANNAH SPARROW	Passerculus sandwichensis
SAY'S PHOEBE	Sayornis saya
SEMIPALMATED PLOVER	Charadrius semipalmatus
SEMIPALMATED SANDPIPER	Calidris pusilla
SHARP-SHINNED HAWK	Accipiter striatus
SHARP-TAILED SANDPIPER	Calidris acuminata
SHORT-BILLED DOWITCHER	Limnodromus griseus
SHORT-EARED OWL	Asio flammeus
SNOW GOOSE	Chen caerulescens
SNOWY EGRET	Egretta thula
SNOWY PLOVER	Charadrius alexandrinus
SOLITARY SANDPIPER	Tringa solitaria
SONG SPARROW	Melospiza melodia
SORA	Porzana carolina
SPOTTED DOVE	Streptopelia chinensis
SPOTTED SANDPIPER	Actitis macularia
SPOTTED TOWHEE	Pipilo maculatus
STILT SANDPIPER	Calidris himantopus
SUMMER TANAGER	Piranga rubra
SURF SCOTER	Melanitta perspicillata
SWAINSON'S HAWK	Buteo swainsoni
SWAINSON'S THRUSH	Catharus ustulatus
SWAMP SPARROW	Melospiza georgiana
THAYER'S GULL	Larus thayeri
TOWNSEND'S WARBLER	Dendroica townsendi
TREE SWALLOW	Tachycineta bicolor
TRICOLORED BLACKBIRD	Agelaius tricolor

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Property Name	Property #
UPPER NEWPORT BAY ER	00361
TRICOLORED HERON	<i>Egretta tricolor</i>
TROPICAL KINGBIRD	<i>Tyrannus melancholicus</i>
TUNDRA SWAN	<i>Cygnus columbianus</i>
TURKEY VULTURE	<i>Cathartes aura</i>
VAUX'S SWIFT	<i>Chaetura vauxi</i>
VESPER SPARROW	<i>Pooecetes gramineus</i>
VIOLET-GREEN SWALLOW	<i>Tachycineta thalassina</i>
VIRGINIA RAIL	<i>Rallus limicola</i>
WARBLING VIREO	<i>Vireo gilvus</i>
WESTERN GREBE	<i>Aechmophorus occidentalis</i>
WESTERN GULL	<i>Larus occidentalis</i>
WESTERN KINGBIRD	<i>Tyrannus verticalis</i>
WESTERN MEADOWLARK	<i>Sturnella neglecta</i>
WESTERN SANDPIPER	<i>Calidris mauri</i>
WESTERN SCRUB-JAY	<i>Aphelocoma californica</i>
WESTERN TANAGER	<i>Piranga ludoviciana</i>
WESTERN WOOD-PEWEE	<i>Contopus sordidulus</i>
WHIMBREL	<i>Numenius phaeopus</i>
WHITE-CROWNED SPARROW	<i>Zonotrichia leucophrys</i>
WHITE-FACED IBIS	<i>Plegadis chihi</i>
WHITE-TAILED KITE	<i>Elanus leucurus</i>
WHITE-THROATED SWIFT	<i>Aeronautes saxatalis</i>
WHITE-WINGED DOVE	<i>Zenaida asiatica</i>
WHITE-WINGED SCOTER	<i>Melanitta fusca</i>
WILLET	<i>Catoptrophorus semipalmatus</i>
WILLOW FLYCATCHER	<i>Empidonax traillii</i>
WILSON'S PHALAROPE	<i>Phalaropus tricolor</i>

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Property Name

UPPER NEWPORT BAY ER

WILSON'S WARBLER

WOOD DUCK

WRENTIT

YELLOW RAIL

YELLOW WARBLER

YELLOW-BREASTED CHAT

YELLOW-HEADED BLACKBIRD

YELLOW-RUMPED WARBLER

Property #

00361

Wilsonia pusilla

Aix sponsa

Chamaea fasciata

Coturnicops noveboracensis

Dendroica petechia

Icteria virens

Xanthocephalus xanthocephalus

Dendroica coronata

Plant List - Scientific and Common Names

Abronia maritima Nutt. ex S. Wats.

Alisma plantago-aquatica L.

Amaranthus albus L.

Ambrosia chamissonis (Less.) Greene

Ambrosia psilostachya DC.

Amsinckia menziesii (Lehm.) A. Nels. & J.F. Macbr.

Amsinckia menziesii var. intermedia (Fisch & C.A. Mey.)

Anagallis arvensis L.

Anemopsis californica (Nutt.) Hook. & Arn.

Apium graveolens L.

Arctotis stoechadifolia Berg.

Artemisia californica Less.

Artemisia douglasiana Bess.

Artemisia dracunculus L.

Arundo donax L.

Asparagus officinalis L. ssp. officinalis

Aster subulatus var. ligulatus Shinnery

Atriplex lentiformis ssp. lentiformis (Torr.) S. Wats.

Atriplex patula L.

Atriplex semibaccata R. Br.

Atriplex serenana A. Nels.

red sand verbena

water plantain

prostrate pigweed

silver burr ragweed

Cuman ragweed

Menzies' fiddleneck

rancher's fireweed

scarlet pimpernel

yerba mansa

wild celery

African daisy

California sagebrush

Douglas' sagewort

wormwood

giantreed

garden asparagus

annual saltmarsh aster

big saltbush

spear saltbush

Australian saltbush

bractscale

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Property Name	Property #
UPPER NEWPORT BAY ER	00361
<i>Atriplex subspicata</i> (Nutt.) Rydb.	saline saltbush
<i>Avena fatua</i> L.	wild oat
<i>Baccharis salicifolia</i> (Ruiz & Pavon) Pers.	mule's fat
<i>Batis maritima</i> L.	turtleweed
<i>Beta vulgaris</i> L.	common beet
<i>Bloomeria crocea</i> (Torr.) Coville	common goldenstars
<i>Brassica nigra</i> (L.) W.D.J. Koch	black mustard
<i>Bromus diandrus</i> Roth	ripgut brome
<i>Bromus hordeaceus</i> L.	soft brome
<i>Bromus madritensis</i> ssp. <i>rubens</i> (L.) Husnot	foxtail chess
<i>Camissonia bistorta</i> (Nutt. ex Torr. & Gray) Raven	southern suncup
<i>Camissonia cheiranthifolia</i> ssp. <i>cheiranthifolia</i> (Hornem. ex	beach primrose
<i>Capsella bursa-pastoris</i> (L.) Medik.	shepherd's purse
<i>Carex spissa</i> Bailey	San Diego sedge
<i>Carpobrotus chilensis</i> (Molina) N.E. Br.	sea fig
<i>Castilleja affinis</i> Hook. & Arn.	Indian paintbrush
<i>Centaurea melitensis</i> L.	Maltese star thistle
<i>Centunculus minimus</i> L.	chaffweed
<i>Chamaesyce maculata</i> (L.) Small	spotted sandmat
<i>Chenopodium ambrosioides</i> L.	Mexican tea
<i>Chenopodium murale</i> L.	nettleleaf goosefoot
<i>Chenopodium rubrum</i> L.	red goosefoot
<i>Chrysanthemum coronarium</i> L.	crowndaisy
<i>Cistus</i> L.	rockrose
<i>Cleome isomeris</i> Greene	bladderpod spiderflower
<i>Conium maculatum</i> L.	poison hemlock
<i>Convolvulus arvensis</i> L.	field bindweed
<i>Conyza canadensis</i> (L.) Cronq.	Canadian horseweed
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> Nutt. ex Benth.	saltmarsh bird's beak
<i>Coronopus didymus</i> (L.) Sm.	lesser swinecress
<i>Cortaderia jubata</i> (Lem.) Stapf	selloa pampas grass
<i>Cotula australis</i> (Sieber) Hook. f.	Australian waterbuttons

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Property Name	Property #
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<i>Cotula coronopifolia</i> L.	common brassbuttons
<i>Cressa truxillensis</i> Kunth	spreading alkaliweed
<i>Cuscuta salina</i> Engelm.	saltmarsh dodder
<i>Cynara cardunculus</i> L.	cardoen
<i>Cynodon dactylon</i> (L.) Pers.	bermudagrass
<i>Dichelostemma capitatum</i> ssp. <i>capitatum</i> (Benth.) Wood	bluedicks
<i>Distichlis spicata</i> (L.) Greene	inland saltgrass
<i>Drosanthemum speciosum</i> (Haw.) Schwant.	royal dewflower
<i>Dudleya lanceolata</i> (Nutt.) Britt. & Rose	lanceleaf liveforever
<i>Dudleya stolonifera</i> Moran	Laguna Beach liveforever
<i>Emex spinosa</i> (L.) Campd.	spiny threecornerjack
<i>Encelia californica</i> Nutt.	California brittlebush
<i>Epilobium brachycarpum</i> K. Presl	autumn willowweed
<i>Eriophyllum confertiflorum</i> (DC.) Gray	yellow yarrow
<i>Erodium botrys</i> (Cav.) Bertol.	longbeak stork's bill
<i>Erodium cicutarium</i> (L.) L'Her. ex Ait.	redstem stork's bill
<i>Eucalyptus globulus</i> Labill.	Tasmanian bluegum
<i>Foeniculum vulgare</i> P. Mill.	sweet fennel
<i>Frankenia salina</i> (Molina) I.M. Johnston	alkali seaheath
<i>Gilia angelensis</i> V. Grant	chaparral gilia
<i>Gnaphalium californicum</i> DC.	everlasting
<i>Gnaphalium palustre</i> Nutt.	western marsh cudweed
<i>Hemizonia pungens</i> (Hook. & Arn.) Torr. & Gray	common spikeweed
<i>Heteromeles arbutifolia</i> (Lindl.) M. Roemer	toyon
<i>Heterotheca grandiflora</i> Nutt.	telegraphweed
<i>Hirschfeldia incana</i> (L.) Lagreze-Fossat	shortpod mustard
<i>Hordeum depressum</i> (Scribn. & J.G. Sm.) Rydb.	dwarf barley
<i>Hordeum murinum</i> ssp. <i>leporinum</i> (Link) Arcang.	leporinum barley
<i>Isocoma menziesii</i> var. <i>vernonioides</i> (Nutt.) Nesom	Menzies' jimmyweed
<i>Jaumea carnosa</i> (Less.) Gray	marsh jaumea
<i>Juncus balticus</i> Willd.	Baltic rush
<i>Lepidium virginicum</i> L.	Virginia pepperweed

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Property Name	Property #
UPPER NEWPORT BAY ER	00361
Leptochloa uninervia (J. Presl) A.S. Hitchc. & Chase	Mexican sprangletop
Limonium californicum (Boiss.) Heller	California sealavender
Lotus scoparius (Nutt.) Ottley	common deerweed
Lupinus bicolor Lindl.	bicolor lupine
Lupinus succulentus Dougl. ex K. Koch	hollowleaf annual lupine
Lupinus truncatus Nutt. ex Hook. & Arn.	collared annual lupine
Lycium californicum Nutt. ex Gray	California desertthorn
Malva parviflora L.	cheeseweed mallow
Malva sylvestris L.	high mallow
Malvella leprosa (Ortega) Krapov.	alkali mallow
Marrubium vulgare L.	horehound
Medicago polymorpha L.	burclover
Melilotus indica (L.) All.	annual yellow sweetclover
Melilotus officinalis (L.) Lam.	yellow sweetclover
Mesembryanthemum crystallinum L.	common iceplant
Mesembryanthemum nodiflorum L.	slenderleaf iceplant
Monanthochloe littoralis Engelm.	shoregrass
Myoporum laetum G. Forst.	ngaio tree
Nicotiana glauca Graham	tree tobacco
Oenante sarmentosa K. Presl ex DC.	water parsely
Opuntia ficus-indica (L.) P. Mill.	tuna cactus
Opuntia prolifera Engelm.	coastal cholla
Oxalis pes-caprae L.	African woodsorrel
Phacelia distans Benth.	distant phacelia
Phalaris aquatica L.	hardinggrass
Phalaris minor Retz.	littleseed canarygrass
Picris echioides L.	bristly oxtongue
Plantago subnuda Pilger	tall coastal plantain
Poa annua L.	annual bluegrass
Polypogon monspeliensis (L.) Desf.	annual rabbitsfoot grass
Polypogon viridis (Gouan) Breistr.	beardless rabbitsfoot grass
Potamogeton nodosus Poir.	longleaf pondweed

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Potentilla anserina ssp. pacifica (Howell) Rousi	cinquefoil
Raphanus sativus L.	wild radish
Rhus integrifolia (Nutt.) Benth. & Hook. f. ex Brewer & S. Wats.	lemonade sumac
Ricinus communis L.	castorbean
Rorippa nasturtium-aquaticum (L.) Hayek	watercress
Rumex crispus L.	curly dock
Salicornia bigelovii Torr.	dwarf saltwort
Salicornia subterminalis Parish	pickleweed
Salicornia virginica L.	Virginia glasswort
Salix exigua Nutt.	sandbar willow
Salix laevigata Bebb	willow
Salix lucida ssp. lasiandra (Benth.) E. Murr.	Pacific willow
Salsola L.	Russian thistle
Sambucus mexicana K. Presl ex DC.	blue elderberry
Schismus barbatus (Loefl. ex L.) Thellung	common Mediterranean grass
Scirpus americanus Pers.	American bulrush
Scirpus californicus (C.A. Mey.) Steud.	California bulrush
Scirpus robustus Pursh	bulrush
Senecio vulgaris L.	common groundsel
Silybum marianum (L.) Gaertn.	blessed milkthistle
Sisymbrium irio L.	Londonrocket
Solanum douglasii Dunal	greenspot nightshade
Solanum sarrachoides Sendtner	nightshade
Sonchus asper ssp. asper (L.) Hill	spiny sowthistle
Sonchus oleraceus L.	common sowthistle
Spartina foliosa Trin.	California cordgrass
Spergularia media (All.) Chiov.	media sandspurry
Suaeda californica S. Wats.	California seablite
Toxicodendron diversilobum (Torr. & Gray) Greene	Pacific poison oak
Triglochin maritimum L.	seaside arrowgrass
Typha domingensis Pers.	southern cattail
Typha latifolia L.	broadleaf cattail

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Property Name

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Urtica urens L.

Xanthium strumarium L.

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dwarf nettle

rough cocklebur

Mammal List - Common and Scientific Names

BLACK-TAILED JACKRABBIT

Lepus californicus

BOBCAT

Lynx rufus

BOTTA'S POCKET GOPHER

Thomomys bottae

BROAD-FOOTED MOLE

Scapanus latimanus

CALIFORNIA GROUND SQUIRREL

Spermophilus beecheyi

CALIFORNIA VOLE

Microtus californicus

COMMON MUSKRAT

Ondatra zibethicus

COYOTE

Canis latrans

DEER MOUSE

Peromyscus maniculatus

DESERT COTTONTAIL

Sylvilagus audubonii

DESERT SHREW

Notiosorex crawfordi

FERAL CAT

Felis catus

GRAY FOX

Urocyon cinereoargenteus

HOUSE MOUSE

Mus musculus

LONG-TAILED WEASEL

Mustela frenata

MULE DEER

Odocoileus hemionus

NORWAY RAT

Rattus norvegicus

RACCOON

Procyon lotor

STRIPED SKUNK

Mephitis mephitis

VIRGINIA OPOSSUM

Didelphis virginiana

WESTERN HARVEST MOUSE

Reithrodontomys megalotis

WESTERN SPOTTED SKUNK

Spilogale gracilis

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Property Name	Property #
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Amphibian List - Common and Scientific Names	
AFRICAN CLAWED FROG	Xenopus laevis
BULLFROG	Rana catesbeiana
CALIFORNIA NEWT	Taricha torosa
CALIFORNIA SLENDER SALAMANDER	Batrachoseps attenuatus
PACIFIC CHORUS FROG	Pseudacris regilla
WESTERN TOAD	Bufo boreas
Reptiles List - Common and Scientific Names	
CALIFORNIA LEGLESS LIZARD	Anniella pulchra
COACHWHIP	Masticophis flagellum
COAST HORNED LIZARD	Phrynosoma coronatum
COMMON KINGSNAKE	Lampropeltis getula
GOPHER SNAKE	Pituophis melanoleucus
SIDE-BLOTCHED LIZARD	Uta stansburiana
SLIDER	Trachemys scripta
SOUTHERN ALLIGATOR LIZARD	Elgaria multicarinata
STRIPED RACER	Masticophis lateralis
WESTERN FENCE LIZARD	Sceloporus occidentalis
WESTERN POND TURTLE	Clemmys marmorata
WESTERN RATTLESNAKE	Crotalus viridis
WESTERN WHIPTAIL	Cnemidophorus tigris

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Fish List - Common and Scientific Names

arrow goby	Clevelandia ios
barred sand bass	Paralabrax nebulifer
barred surfperch	Amphistichus argenteus
bat ray	Rhinoloates productus
black bullhead	Ameiurus melas
black croaker	Cheilotrem saturnum
bluegill	Lepomis macrochirus
bonefish	Dorosoma petenensis
brown smoothhound shark	Mustelus henlei
butterfly stingray	Platyrrhoidis triseriata
C-0 turbot	Pleuronichthys coenosus
California clingfish	Gobiesox rhesodon
California corbina	Menticirrhus undulatus
California halibut	Paralichthys californicus
California killifish	Fundulus parvipinnis
California tonguefish	Symphurus atricauda
checkspot goby	Ilypnus gilberti
deepbody anchovy	Anchoa compressa
diamond stingray	Mvliobatus californica
diamond turbot	Hypsopsetta guttulata
fathead minnow	Pimephales promelas
gray smoothhound shark	Mustelus californicus
green sunfish	Lepomis cyanellus
hornyhead turbot	Pleuronichthys verticalis
kelp bass	Paralabrax clatratus
leopard shark	Triakis semifasciata

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Property Name	Property #
UPPER NEWPORT BAY ER	00361
longjaw mudsucker	Gillichthys mirailis
mosquitofish	Gabusia attinis
northern anchovy	Engraulis mordax
opaleye	Girella nigricans
Pacific Butterfish	Peprilus simillimus
Pacific mackerel	Scomber japonicus
Pacific sardine	Sardinops caerulea
pile surfperch	Rhacohilus vacca
red shiner	Notropis lutrensis
rockfish spp	Sebastes sp.
round stingray	Gymnura marmorata
Salema	Xenistius californiensis
sargo	Anisotremus davidsoni
shadow goby	Yongeichthys nebulosus
shiner surfperch	Cymatogaster aggregata
shovelnose guitarfish	Dasyatis dipteupea
silver goldfish	Carassius auratus
slough anchovy	Anchoa delicatissima
specklefin midshipman	Porichthys myriaste
spotfin croaker	Roncador stearnsi
spotted sand bass	Paralabrax maculatofasciatus
spotted turbot	Pleuronichthys ritteri
staghorn sculpin	Cottus armatus
thornback	Urolopus hallerli
threadfin shad	Dorosoma petenense
tilapia sp	Tilapia spp.
walleye surfperch	Hyperprosopon argenteum

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Property Name	Property #
UPPER NEWPORT BAY ER	00361
white croaker	Genyonemus lineatus
white seabass	Cynoscion nobilis
white surfperch	Heterostichus rostratus
yellowfin croaker	Umbrina roncadore
zebraperch	Hermosilla azurea

Invertebrate List - Common and Scientific Names

Pacific littleneck clam	Protothaca staminea laciniata
Pacific littleneck clam	Protothaca staminea
Pink hearted hydroid	Tubularia crocea
Thin-shelled littleneck	Protothaca tenerrima

Vegetation Communities List

30.000.00	SCRUB AND CHAPARRAL
32.000.00	Coastal Scrub
40.000.00	GRASS & HERB DOMINATED COMMUNITIES
41.000.00	Native Grassland
41.070.00	Cordgrass Saline/Alkaline Grassland
41.070.01	California Cordgrass
50.000.00	BOG AND MARSH
52.000.00	Marsh
52.100.00	Fresh - Brackish Water Marsh
52.101.00	Bulrush
52.102.00	Bulrush - Cattail Wetland
52.103.00	Cattail Wetland
52.200.00	Salt - Alkali Marsh
52.201.00	Pickleweed Wetland
60.000.00	RIPARIAN AND BOTTOMLAND HABITAT

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Property Name	Property #
UPPER NEWPORT BAY ER	00361
61.000.00	Riparian Forest and Woodland
61.200.00	Willow Riparian Forests and Woodlands

Wildlife Habitat types

COASTAL SCRUB
ESTUARINE
FRESH EMERGENT WETLAND
MARINE
SALINE EMERGENT WETLAND
VALLEY FOOTHILL RIPARIAN

Data Sources - Document Name, Date, Author and Comments

UPPER NEWPORT BAY ER MANAGEMENT PLAN 1/1/89 DAUGHERTY (1978), HARDY